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WITH SUPPLEMENT.

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INCREASING research has demonstrated how crude and inadequate were the old notions of intestinal muscular activity and intestinal secretion. The significance f the vital processes of the epithelial lining cells has but recently been appreciated. It is safe to say that many ancient though still customary methods of increasing peristalsis by drugs are pathologically provocative.

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J. C. ENO LTD VICTORIA EMBANKMENT LONDON E.C.4

THE eighth annual meeting of the Mental Hospitals Association will be held in the Council Chamber of the Guildhall, London, on Wednesday, July 14th, at 11 a.m.

THE thirteenth congress of French-speaking alienists and neurologists, which will be held in Geneva and Lausanne in the first week in August, will coincide with the centenary of Pinel's death, and will have as presidents one of his descendants (Dr. Semelaigne of Paris) and Professor Long of Geneva. The following subjects will be discussed; Schizophrenia, introduced by Professors Bleuler of Zürich and Claude of Paris; Babinski's sign, its causes, mechanism, and significance, introduced by Professor Claude; the treatment of mental diseases by work, introduced by Professor Ladame of Geneva and Dr. Demay of Clermont. The subscription for members of the congress will be 30 French francs.

A FURTHER series of tours has been arranged by the *Bruxelles-Médical* for the autumn. From August 31st to September 21st a cruise to the Canary Islands will include visits to Bilbao, Vigo, Oporto, Las Palmas, Almeria, or alternatively Casablanca and Tangiers and Marseilles; the charge to medical practitioners for the complete journey will be £26. Visits to the French ports are being organized during August and September lasting fifteen to eighteen days at the cost of 1,800 francs. Two Mediterranean cruises for university students will be organized in August and September, visiting Egypt, Palestine, Turkey, Greece, and Italy; the charge for the first cruise of twenty-six days will be 1,800 French francs, and for the second—lasting thirty days—2,100 francs. Further information may be obtained from the *Bruxelles-Médical*, at the Belgian office of the Compagnies Françaises de Navigation, 29, Boulevard Adolphe Max, Brussels.

THE thirty-sixth French Congress of Surgery will be held at the Paris Faculty of Medicine, under the presidency of Professor J. L. Faure, from October 4th to 9th, when the following subjects will be discussed: (1) Pathology of the semilunar cartilages, introduced by MM. Mouchet of Paris and Tavernier of Lyons; (2) Conservative operations in inflammatory diseases of the adnexa, introduced by MM. Gervais de Rouville of Montpellier and Mocquot of Paris; (3) Treatment of active gonococcal arthritis, introduced by MM. Michel of Nancy and Mondor of Paris.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

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QUERIES AND ANSWERS.

INCOME TAX.

Deduction for Cost of Professional Rooms.

"A. R." has for many years been allowed to deduct two-thirds of his rent and rates as incurred for professional purposes; the local inspector of taxes has now informed him that he will be allowed one-third only in future.

*** Two-thirds was the old *maximum* proportion. The test is what is reasonable in the circumstances of each case, and it has to be admitted that that is usually excessive in the case of a provincial town. If, for instance, "A. R.'s" combined rent and rates amount to £150 per annum, it is unlikely that £50 only (or any amount near that figure) would reasonably cover the non-professional portions of the house and garden. But whether one-third is enough we cannot say. It may be worth while pointing out to the inspector that the garage is wholly (or almost wholly) used for professional purposes and that the ground floor, where presumably "A. R." has his waiting and consulting rooms, is always reckoned by valuers to be by far the most valuable portion of a house.

Private Use of Car.

"H. L." explains that (excluding holiday running, which is separately recorded) he uses his car privately to the probable extent of 300 miles a year, and that on that basis the inspector of taxes proposes to disallow his claim to expenses to the extent of from £20 to £50, according to the total amount expended in the year.

*** It must be admitted that any expense which "H. L." has incurred for non-professional purposes cannot properly be deducted in his income tax return, and that it is not uncommon for the taxing authorities to insist on the exclusion of such expenses. At the same time the amounts suggested seem excessive on the mileage basis quoted. (Perhaps "H. L." has not made it clear to the inspector that his holiday expenses have not appeared in his original claim?) There are some expenses (cost of garaging and licence, for instance) which are not increased by private use of a car, and we are of opinion that the whole of such expenses should be allowed.

LETTERS, NOTES, ETC.

DUPUYTREN'S CONTRACTION.

DR. T. M. ALLISON (Newcastle-on-Tyne) writes with reference to the annotation on "The machine and the man" (p. 839): I regard Dupuytren's contraction as a gouty fibrosis; I have never seen it except in a person who drinks beer, not necessarily to excess. The use of certain tools may irritate the hands, but the contraction, in my opinion, only occurs in gouty subjects.

CALCIUM IN OVARIAN INSUFFICIENCY.

"OBSERVER," referring to the recommendation by Crainicianu of calcium in ovarian insufficiency (*Epitome*, June 26th, 1926, para. 652), asks what evidence there is of a deficiency of calcium in hypofunction of the ovaries; an excess of calcium might, he thinks, readily lessen the function of the ovaries, as well as that of the thyroid. Our correspondent adds: We know that the ovaries stimulate calcium metabolism, and also (as has been shown by Professor Dixon) the secretion of the pituitary body; but how calcium could stimulate the ovaries requires some explanation. In the treatment of osteomalacia the removal of the ovaries has long been practised. There is no use in introducing huge doses of calcium lactate into the digestive tract unless its absorption can be ensured, and it is known that only a small amount of calcium (fortunately) can be introduced into the system. If it were otherwise many patients would become like Lot's wife.

HAFFKINE'S PROPHYLACTIC FLUID.

WITH reference to the proposed improvement of Haffkine's prophylactic fluid by using the clear filtrate and rejecting the sediment, Dr. S. MALLANNAH (Hyderabad, Deccan) writes: Up to the present it has been generally thought that the protection produced by Haffkine's fluid is due to the action of dead plague bacilli and their products, and hence it is directed that the bottles be well shaken before use, so that both dead bacteria and their products are used in inoculation. In 1900 I formed and published conclusions based on clinical and experimental observations to the effect that the filtrate of Haffkine's fluid, when free from sediment containing dead plague germs, was not only efficacious in producing immunity, but that it was better than the whole fluid, since it did not cause indurations at the site of injection (BRITISH MEDICAL JOURNAL, 1900, i, p. 1155). These indurations or lumps generally last for three or four months and are slowly absorbed. They contain sterile pus, as I have demonstrated. I have shown also that rabbits inoculated with whole Haffkine's fluid lose weight during the absorption of these indurations. Finding that the filtrate has a better protective power and does not produce hard lumps, my usual procedure in using Haffkine's fluid is as follows. The bottles, after being well shaken, are set aside for some days with the pointed ends directed upwards. After a few days the fluid becomes quite clear, and at the bottom there is an ash-coloured sediment, which consists of dead plague bacilli. I withdraw the clear supernatant fluid and use it for injections, rejecting the sediment. With this procedure I have obtained better results and less reactions without producing any induration. One great advantage in using the filtrate, or clear supernatant fluid, only, is that contamination can be easily detected, since it causes turbidity in the fluid; in such a case the bottle should be rejected.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 39, 40, 41, 44, and 45 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 42 and 43.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *86*.

Victor Horsley Memorial Lecture

ON

THE INSULATION OF THE NERVOUS SYSTEM.*

BY

WILFRED TROTTER, M.S., F.R.C.S.,

SURGEON, UNIVERSITY COLLEGE HOSPITAL.

WITHIN a few days it will be exactly ten years since Victor Horsley died. The circumstances of his death, however lamentable they may seem to us who lost him, were not, perhaps, very different from what he himself might have wished. He was at work in the direct service of his country, he was using his whole strength in the relief of suffering, while his mind and body kept unabated their astonishing and characteristic vigour. In commemorating this great man our attention is attracted to three separate aspects of his life. We think of him as a physiologist and as a surgical pioneer, and we think of the personality which lay behind and informed these and all the activities of his crowded years.

His work for science and for surgery has long been incorporated with the general body of knowledge and has its lasting place. For his personality there is no such lodgement, and those in whose memory it lives so vividly are already, after the passage of even ten years, a heavily reduced company. I therefore gratefully accept this chance to make my small record of a man who in my knowledge of men was unique in this—that he combined an inflexible belief in his own standards and a truly apostolic zeal in all public affairs, with a disposition that was in its essence boyish and simple and in every private relation easy and mild and kind.

METHODS OF INVESTIGATION IN NEUROLOGY.

The pioneer work of Horsley in the surgery of the central nervous system has had and must continue to have important remote and secondary effects upon the development of neurology. Whenever a region of the body has been made accessible to surgery, a new insight into its pathology has resulted from the fresh experience that has been acquired of morbid processes in the living and especially of the earlier stages of disease. This has been abundantly shown in the case of the abdomen and in the case of the thorax. In that of the central nervous system it is perhaps as yet less obvious, but it is already unmistakable and will become increasingly so as experience accumulates.

While most of us would no doubt agree that important practical knowledge is to be acquired in this way, there are probably few who look to it with much hope for the discovery of principles of general scope and fundamental significance. As a possible source of any wide expansion of neurological theory it is just and natural to look to laboratory methods and the study of animals rather than to methods of the bedside and to the study of man himself in his reactions to injury and disease. In the familiar and not always philosophically made comparison between the experimental and clinical methods it is usually, however, overlooked that the latter has of necessity a virtue which is in some degree its special possession. The student whose material is man is drastically handicapped by the limited extent to which experiment is open to him. He must take his problems as he finds them, and deny himself the help of almost all the preliminary simplifications which are the essence of the laboratory worker's advantage. At the same time, however, the conditions of his work impose upon him a knowledge of his material at once so intimate and so wide as to constitute a situation probably unique in the whole field of science. When we consider the intensity of watchfulness which the quite ordinary practice of neural surgery calls for and obtains it must be obvious that the behaviour of the human brain in the various circumstances of injury and disease is far better known than that of any other animal. Indeed, one of the characteristic difficulties of the clinician comes from this very abundance of the stuff of observation, and he is likely to be overwhelmed by its bulk and rendered inattentive by its familiarity, losing amongst details his sense for larger groupings, and amidst the everyday his eye for the significant. Nevertheless the history of science shows that one important source of general ideas has been just this very circumstance of a close intimacy with a large range of observed facts.

The familiarity with the behaviour of the central nervous system that has been possible since it has been accessible to surgical exploration and treatment is capable of reacting in an important way on our attitude to neurological theory.

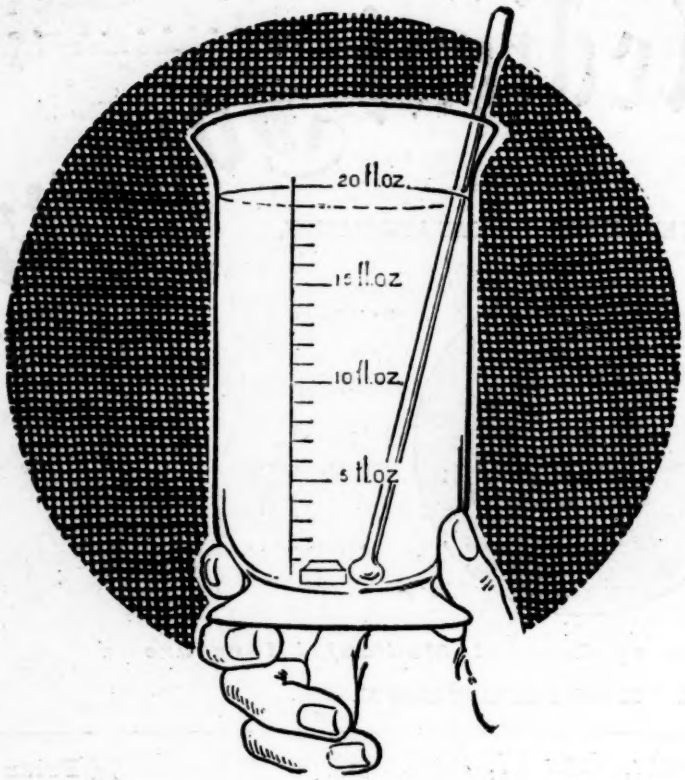
THE ABSTRACT METHOD IN NEUROLOGY.

There are few departments in biological science in which what we may call abstract methods of thought are more naturally and inevitably used than they are in neurology. By abstract methods I mean methods in which the single or grouped items of experience are for convenience of thought represented by abstracted summaries of themselves or symbols, which have a handiness for working on in the mind that the raw undigested facts cannot possess. The discovery of the uses of abstraction was an event of fundamental importance in the evolution of science, and in the early Greek natural philosophers we can see with what exultation was welcomed the extension it gave to the powers of the mind. Perfectly legitimate and indeed indispensable as the method is, it is obviously not applicable to all material of inquiry with equal ease and safety. With what certainty and precision the qualities of number, space, and motion allow of abstraction is seen in the noble achievements of mathematics, physics, and astronomy—achievements which, through their most recent extensions in atomic and in stellar physics, have finally established the overwhelming prestige of the method and its effective leadership in science.

When, however, we make living matter and living organisms the subject of study we find that though we can by no means dispense with the use of abstraction it is far less effective in application and has disadvantages which it does not seem to possess in the inorganic world. In biological inquiry an abstract conception, though professedly no more than a convenient summary of experience and constantly subject to the censorship of facts, is apt to acquire a quasi-vitality of its own through which it loses its immediate dependence on experience and comes to dominate instead of serving. The danger arises not so much from the extreme cases of conceptions which easily show as flagrantly inconsistent with facts, but from ideas primarily good and sound which have been endowed with a prestige that in their very nature they could not deserve. That an overvaluation of the abstract conception as an implement of research can deceive even the very elect could be shown by many eminent examples. The biological writings of Herbert Spencer are perhaps as good an instance as comes readily to mind, and it is easy to trace in them how this very weakness has led within a few years to their greatly diminished influence. To find so distinguished a man in a state of reprobation may well make humble people look anxiously to their own doctrines; and indeed which of us, for example, can ask himself without a qualm what is the *exact* meaning he attaches to the abstract conception of evolution which has dominated the biological world for half a century?

When we turn to neurology we find the currency and influence of abstract conceptions very great—as, for example, in the theory of aphasia, in Hughlings Jackson's interpretation of cerebral functions, in Monakow's doctrine of diaschisis, and so forth. All these are doubtless, in their essence and originally, good and valuable conceptions; it is another matter, however, how far their function as professed summaries of experience is kept distinct from their charm as mere intellectual patterns. It is thus peculiarly necessary for neurology to submit itself to the

* The second Victor Horsley Memorial Lecture, delivered at the House of the British Medical Association on Friday, July 9th; Sir John Bland-Sutton, Bt., F.R.C.S., was in the chair.



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Ol. Gaultheriæ,	*min.* 1/20

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painful, and then it tends to be more persistent and may last for years. The facts suggest that the exposed nerve fibres of the stump are excited by contact with the tissues, and that in the bulbous end the stimulation effect gradually dies down until a state of equilibrium is established in which the new tissue sealing off the nerve end is practically as inert towards the nerve as is its normal sheath.

It is natural to suppose that after a wound of the brain which allowed a scar of non-neural origin to come into close contact with the brain substance a state of excitation might be set up. The frequency of traumatic epilepsy in cases of direct scarring of the brain is perhaps suggestive, but I know of no evidence that allows us to take the case beyond a mere suspicion.

On the somatic side of a breach of neural insulation there is no disturbance of function beyond the mere reaction already described. It is, indeed, characteristic of this that it is always and only strictly local. There is nothing in the way even of a diffuse or spreading fibrosis; the new tissue, whether it be an amputation neuroma or a new segment of dura and although it is of somatic origin, becomes sharply differentiated from the tissues it is derived from, and can be separated from them easily without cutting. We see, therefore, that although breaches of neural insulation are immediately dealt with by energetic, effective, and highly specialized mechanisms, the actual disturbances of function produced by such breaches do not seem to be very important.

Insulatory Arrangements in the Normal Nervous System.

If the evidence I have cited bears the meaning I have given it and we can regard as of high importance to the body the maintenance of neural insulation, then we can look for confirmation in normal structure and expect to find dispositions in relation to the nervous system which are insulatory in function. From the nature of the reaction we have seen to be set up by breaches of insulation we may infer that the influence against which insulatory mechanisms are provided is chemical in kind, and this inference may serve as a guiding principle in the search.

Insulation of the Peripheral Nerves.

Beginning our survey with the peripheral nerves we may at once dismiss from consideration the medullary sheath, which, whatever its physical insulatory function may be, is clearly not in question as a chemical insulant, since non-medullated nerves lie as peacefully and as inert in the tissues as the medullated. The case is different, however, with the neurilemma. Here we have a sheath common to all nerves outside the central axis, and continuous without a break from spinal cord or brain to end-organ. The motor nerve fibre is clothed from within the central nervous system to the muscle fibre, where the neurilemma completes the sealing off of unnatural contacts by becoming continuous with the sarcolemma itself. The sensory fibres are similarly clothed throughout their length; at their peripheral termination they enter end-organs all of which throughout a great variety of structure show—with one suggestive exception—so marked an encapsulatory arrangement that one cannot but think that here the need for insulation must be especially vital. The one sensory nerve fibre which is known to terminate in an end-organ which is not of a strongly capsular type is the fibre that serves the sense of pain. This fibre ends in a free arborization in the tissue to which it is distributed, and this terminal part is uncovered by neurilemma. It cannot but strike us as significant, though I shall not take up the point further at the moment, that this anomaly of a sensory fibre making naked contact with the somatic tissues should be a character of the fibre concerned with pain, a form of sensibility that in itself is so profoundly anomalous.

The view that the neurilemma is the chemically insulating structure we are looking for is confirmed by the fact that within the central nervous system, where insulation is otherwise provided, it is defective or altogether absent. A point further suggestive of the importance of insulation in the peripheral nerves is the evidence we have that there is an upward drainage along their trunks, so that the products of their metabolism are probably kept from contact with surrounding tissues and are conveyed into the central theca.

Insulation of the Central Nervous System.

When we turn to the central nervous system we find that the method of individual insulation no longer prevails, but that the whole mass of the central axis is protected as one unit. Plainly, of course, it is the meninges which are chiefly concerned. Of these we have already seen that the dura has so important a function that accidental defects in it are repaired with very remarkable rapidity and completeness. The *mechanically protective* function of the dura, which doubtless has its importance, can scarcely be regarded as explaining its peculiarly impervious texture, its double endothelial surface, and the marked line of cleavage that separates it even when newly formed from the surrounding tissues. All these, however, acquire meaning when they are regarded as evidence of its *chemically insulatory* capacity. Effective as the dura doubtless is in its way, it deals only with one relatively small part of the problem of insulation. If we are right in supposing that all neuro-somatic contacts are inadmissible and that the blood and blood vessels belong to the somatic side of the frontier, the nutrition of so large a bulk of nervous tissue as the central nervous system must involve dispositions altogether unique in the body, and we should expect, in regarding the circulatory mechanisms of the part from this point of view, to meet with features of a very special kind.

The cerebro-spinal fluid and its circulation, the existence and disposition of the multiple membranes of the brain, and the absence of a recognizable lymphatic system in the ordinary sense of the term, constitute a picture which is unique, and has admittedly defied thorough explanation. Let us consider it in relation to the avoidance of undue contact between neural and non-neural elements.

The Cerebro-spinal Fluid.

Let me briefly review the strange facts of the physiology of the cerebro-spinal fluid as they are now known. The cerebro-spinal fluid is an extremely dilute secretion profusely poured out by the choroid plexuses of the cerebral ventricles. It flows through the central cavities of the brain and issues therefrom through the roof of the fourth ventricle into the subarachnoid space. Through this so-called space, which has rather the structure of a cellular spongework, it courses partly into the spinal canal, but chiefly upwards and forwards over the brain, to escape into the venous circulation through the arachnoid villi that project into the various lateral extensions of the superior longitudinal sinus. As is well known, any obstruction to the flow in any part of this intricate course downwards within the brain and upwards outside of it inevitably leads to an accumulation of the fluid and to hydrocephalus. Such obstructions are easily produced and common.

The cerebro-spinal fluid with its circulation, whatever function it may be there to perform, shows itself, then, to constitute a weak spot in the cerebral organization that as it were invites pathological attack. That the cerebral apparatus should contain an arrangement in some ways so seriously disadvantageous, suggests that the mechanism must have some deep functional significance that is indispensable to the physiology of the body.

There is no lymphatic system in the ordinary sense in the brain or spinal cord, and no flow outwards through the cerebro-spinal envelopes of anything corresponding with lymph occurs anywhere. It seems clear that products of nervous metabolism find their way into the cerebro-spinal fluid in the subarachnoid space; there is, in fact, strong clinical evidence that this fluid has a definite toxicity for the rest of the body, for when it is liberated into the tissues high fever is apt to occur during the short period before absorption is arrested by the inevitable reaction in the tissues that produces encystment. It is thought that metabolic products reach the cerebro-spinal fluid along the so-called perivascular lymphatics. These remarkable structures are

discipline of frequent returns to the comparatively primitive and clumsy method of direct and concrete thinking. Such efforts should, I think, be guided by two principles. The first is the obvious one that a constant and docile reference to experience is indispensable. The second is perhaps less obvious and is less simple to state; it accepts the free use of hypothesis as essential to neurological progress, but it enjoins that in drawing up our necessarily more or less abstract conceptions of the nature and working of the nervous system we should incline to the use of ideas of a definitely biological type, and should as far as possible avoid concepts that in their very nature can have no direct resemblance to what actually happens in the body. In giving to our neurological ideas this concrete and realistic tone we shall always depend to a great extent on an intimate familiarity with the appearances and behaviour of the actual nervous tissues. The knowledge of this kind we possess to-day may well be regarded as having in great part grown out of Horsley's work.

The surgical neurologist is perhaps fortunately placed for considering the nervous system in an attitude of mind at once general and concrete; while he lacks the special knowledge of the anatomist, the physiologist, and the pathologist, he is also free from their special preoccupations; while the behaviour of the nervous tissues in injury and disease is a matter of familiar knowledge, it is prevented from becoming commonplace by the narrow margin of safety within which he works and the serious consequences that follow when it is exceeded. Thus is almost forced on him the development of views which, whatever they may lack in the way of abstruse detail, will at any rate always tend to be strictly realistic.

Injuries to the Limiting Structures of the Nervous System.

In illustration of this general point of view I propose to call attention to a small group of facts which while they are of more or less common knowledge are perhaps more especially within the observation of the surgeon. They are concerned with the responses of the nervous system to certain injuries.

Division of a Nerve.

It is a very old observation that when a mixed peripheral nerve is cut its central end becomes swollen into a bulbous mass of dense fibrous tissue. It seems sometimes to be thought that this is only an occasional result of a nerve section and is especially to be looked for when persistent pain has followed the injury. This is, of course, not the fact. The bulbous end is the invariable and inevitable result of a nerve section to which it is the necessary and so to say physiological response. When we inquire into the exact nature of this so-called amputation neuroma we find that in immediate consequence of the section the nerve fibres ramify and grow out from the cut end so that there issues from this a veritable spray of fine naked axis cylinders. The result of this invasion is to call forth an energetic response from the adjacent non-neural tissue leading to the formation of a peculiarly dense fibrous material that resists the spread of the nerve fibrils and finally encloses them in an impenetrable capsule. Within this limiting substance the growth of axis cylinders continues, but since there is no exit it can result only in the formation of an intricate and aimlessly convoluted network.

Breaches of the Spinal Theca.

It occasionally happens, usually perhaps in connexion with the avulsion of a spinal nerve, that a subcutaneous laceration of the spinal dura occurs. More commonly the surgeon has an opportunity of studying the effect of breaches of the theca in cases where a laminectomy with incision of the membranes has to be followed by a second similar operation after some weeks or months. We find then that wherever the cerebro-spinal fluid has been able to escape into the tissues it has been everywhere walled off by a dense impervious membrane, so that, according to the extent to which the fluid has made its way, there will be a more or less complicated series of cyst-like spaces communicating with the intrathecal cavity. It is the wall of these cystic extensions of the theca that is of interest, for it shows all the characters of the normal dura. It is of a dense, fibrous substance, its inner surface is smooth and glistening, and its outer surface, instead of merging with the surrounding tissues like a scar, is easily separable from them along a well marked line of cleavage.

Regeneration of the Cerebral Dura.

It is not uncommon for a second cerebral operation to be necessary in a case in which the dura mater has already been opened or removed. If the second operation is done after an interval of about six weeks or more it will be found that the gap, however large, that was left in the dura at the first operation has been closed by the formation of a new membrane having all the characters of normal dura as above described. Among such characters the most striking, and perhaps the most conclusive of the nature of the new membrane, is its differentiation from the overlying scalp, so that the latter can be stripped away from it with ease and without bleeding. It is interesting to note that at one time a great deal of surgical ingenuity was expended on evolving a plastic surgery of the dura, in which gaps were closed by the insertion of fascial grafts. Such grafts were always remarkably successful because a new dura would have formed quite naturally and equally well without them.

Here we have a group of three well defined facts established by countless observations and capable of confirmation at any time. They bring evidence from different parts of the nervous system disclosing even to superficial consideration a clear common tendency. The conclusion to which all point is that breaches of the normal coverings of the nervous tissues allowing contact between the latter and other tissues of the body result of necessity in energetic local reactions. The obvious function of such reactive processes is to re-establish the normal discontinuity between neural and somatic tissues and to break the contact that has caused the disturbance.

We have met, then, with a mechanism of a definitely physiological type which may well prove to be concerned with the very nature of the nervous system. Our next inquiry will naturally be, What is the immediate agent of the reaction we are concerned with? In the case of the divided nerve it seems clear that the escaping naked axis cylinder is the actual irritant substance; in the case of the spinal theca it is evident that the cerebro-spinal fluid is the effective agent; in the case of the cerebral dura it is probable that in ordinary conditions with an intact arachnoid, fluid exuding through this is the excitant, though the contact of the brain itself is doubtless also effective. It is seen, then, that there is a common property possessed by naked nerve fibres, by cerebro-spinal fluid, and almost certainly by the brain substance itself, which enables these to set up in the somatic tissues an energetic reaction the tendency of which is to insulate the one from the other. There is evidence that the neural side of the contact, while effective as an irritant, does not contribute to the newly formed tissue which, whether in the form of the fibromatous material of the bulbous nerve or in that of the extemporized dura, is of purely non-neural origin though obviously a highly specialized material and no mere scar.

Functional Effects of Breaches in Insulation.

When we see such well defined mechanisms for the sealing of breaches in neural insulation we naturally should expect to find such breaches to be of great functional importance and capable of causing serious disturbance in the tissues unnaturally brought into contact. There is in fact evidence that some effect on function is produced, but it is not to the mere prevention of this that we can look to explain the actual existence of these mechanisms themselves; that seems to depend, as we shall see, on some far more fundamental causation. The chief evidence of disturbed function is seen in the case of the divided nerve. Here there are symptoms suggesting persistent excitation of the cut end. These are always present from the first, but they vary greatly in intensity. The sensation of the presence of the limb after an amputation is universal, and it always lasts for several weeks. Not uncommonly it is

function of the neurilemma. Whether the failure of this sheath is primary or secondary, absolute or relative, no one who has seen a severe case of the disease can doubt that any general collapse of the peripheral insulatory mechanism makes the life of its unfortunate subject almost insupportable.

INSULATION AND THE PHYSIOLOGY OF PAIN.

I have already called attention to the remarkable fact that there is one kind of sensory fibre which ends in a free arborization in naked contact with the tissues. Our last task in dealing with the insulation of the nervous system is to examine a little more in detail the striking anomaly that in their end-organs the pain fibres make this unique exception to the rule that sensory fibres are insulated up to and including their end-organs.

This anatomical uniqueness of the pain fibre in its end-organ is matched by the uniqueness of the physiological characters of pain sensibility, and it is very natural that we should desire to correlate these two anomalies. Pain sensibility is remarkable in three respects: first, in the quality of the sensation itself; secondly, in its threshold of sensitiveness; and thirdly, in the nature of its appropriate stimuli. (*a*) The *sensation of pain* is peculiar in that it has a sudden and as it were explosive way of bursting into consciousness, in that it calls urgently and often irresistibly for some kind of motor response, and in that it is in its very nature distracting so as to be incompatible with quiet contemplation or steady judgement. (*b*) The *threshold for pain* stimuli is remarkably high, so that in comparison with other forms of common sensibility the stimulus has to be relatively energetic to call forth the characteristic sensation. (*c*) The *stimuli* that call forth pain sensations are remarkable for being very miscellaneous. In every other kind of sensibility but pain, the normal response is to a single well defined physical change—pressure is evoked by weight, touch by movement, cold by loss of heat, warmth by access of heat. The ordinary stimulants of pain, on the other hand, such as pressure, pin-pricks, cold, heat, and the electric current, make up a thoroughly odd class, the members of which show no common character. They are all capable of producing the characteristic sensation before, and usually long before, an intensity of stimulation is reached that can be shown to be harmful. That many of the stimuli would be harmful in greater intensities can scarcely, therefore, be regarded as forming a common physical basis, but must rather be explained as merely a consequence of the normally high threshold.

When we consider these peculiarities we can hardly regard them as those of a highly differentiated mechanism, but rather as those of one relatively crude. All sensibility may well have been of this kind in organisms to which the distracting explosive qualities of the sensation would be no detriment. If we look upon the peculiarities of pain as an evidence of crudity rather than of differentiation it is relatively easy to correlate them with the uninsulated end-organ of the pain fibre, which we must regard as less differentiated and cruder than the complex end-organs of the other fibres. Pain sensibility would thus owe its special character to being the function of a nerve fibre of a peculiar kind, which while relatively insensitive responds in an exaggerated way when its threshold is reached. Presumably these characters are to be associated with the uninsulated end-organ, and we may suspect that it is this lack of insulation which gives to the fibre its characteristic features of blunt sensitivity and emphatic response.

We possess a possible source of further light on this problem in the phenomena that accompany the recovery of function in sensory nerves after division and immediate suture. It is well known that this process, as observed under experimental conditions in the human subject by at least three independent groups of investigators, is accompanied by remarkable modifications in all forms of sensibility. It is impossible to refer to these modifications in detail, but it gives them in a broadly approximate way—and I speak from actual personal experience of them—to say that they are generally in the direction of the peculiarities shown by normal pain; in other words, the modified sensations compared with the normal are more explosive and more urgent, they have a higher threshold, and they call for some kind of motor response. The explanation of these and the other modifications that are to be observed during recovery of sensory nerves has differed with different investigators. It is far too much a matter of detail to discuss these differing hypotheses here, but there is one criticism to be offered of some that is relevant to the general attitude we have tried to support. This criticism is that there has been a tendency to approach the problem in too abstract a way. It has been assumed that the question is one of the mere return of functions that are present in the normal and in the form in which they are then present—modifications in the character of sensation being ascribed to such factors as the order of return and the rate of return of different functions, and the modification in character of one form of sensibility to the presence or absence of another. This is to assume that the processes and incidents of regeneration itself have nothing to say to the problem; and that the struggle between the advancing nerve fibres and the reaction they arouse from the line of suture onwards can be ignored. To take it for granted that the naked growing fibres can pass through this difficult and prolonged ordeal without any alteration in their function, and to limit the problem in this way to strictly and exclusively neural factors, seems to me a method less concrete and practical than the case demands.

An alternative hypothesis, which is at any rate more comprehensive and more simple, can, however, be put forward. The general tendency of all forms of sensation yielded by a regenerating nerve to develop a certain resemblance to pain reminds us that regenerating fibres resemble pain fibres in a lack of complete insulation. It is probable, therefore, that imperfect insulation tends to render all fibres less sensitive than normal, but more apt when effectually stimulated to respond in an exaggerated explosive way. With the advance of regeneration the fibres serving touch, heat, and cold, become once more connected with end-organs, and then their insulation, by the junction of the neurilemma with the capsule of the end-organ, can be completed. The completely insulated fibre, having lost its temporary resemblance to the pain fibre, becomes once more sensitive to the finer stimuli and ceases to yield exaggerated responses.

The process of regeneration thus seems capable of causing a regression of function in all kinds of nerve fibres to a cruder type that in the normal is represented only by pain. This regression occurs because during regeneration insulation must necessarily be defective. According to this hypothesis normal pain and the sensibility of regenerating nerves give us an insight into the ancestry of common sensation. Primitive sensibility of all kinds we may suppose to have been like pain in us; it had a relatively high threshold, but it was effective because its sensations were urgent and explosive and, of course (also like pain in us), were exactly localized. Among such sensations fine discrimination was plainly impossible. With the development of the completely insulated nerve and end-organ the fibres thus equipped became capable of yielding sensation to finer and to specialized stimuli, and of a quality no longer explosive but able to be submitted to discrimination; at the same time the large number of pain nerves remained in their primitive state to warn the body of strong stimuli by urgent sensations among which there was no power and no need for discrimination because their function was to excite immediate response.

The great and manifest difference between the vertebrate and the invertebrate nervous systems is that the former is centralized and the latter is scattered throughout the body. The facts I have quoted and the inferences I have drawn suggest the hypothesis that, side by side with centralization and rendering it possible, insulation also must have proceeded. Insulation on the one hand must have been made increasingly necessary by the growing differentiation of neural from somatic tissues, and on the other hand must have helped to sharpen this very difference. It is not, therefore, surprising that a function so fundamental is not only recognizable in the structure and behaviour of the normal nervous sytem, but is also evidently at work in morbid processes and constitutes at once a help and a limitation to the work of the surgeon.

tubular extensions of the subarachnoid space which accompany and enclose the vessels that penetrate the brain to their finest ramifications. The interpretation of their meaning has long been regarded as a great difficulty, but if we accept the view that somatic structures like the blood vessels cannot be admitted to direct contact with the nervous tissues it is natural to regard the perivascular lymphatics as mechanisms to insulate the blood vessels from this contact. It may be assumed from what we know of the nourishment of tissues in general that there is some kind of leakage from the cerebral tissues comparable with lymph as found everywhere else and presumably of a not dissimilar concentration. This fluid will find its way to the subarachnoid space, presumably by the perivascular channels. The disposal of such a material may well be regarded as an exacting task. It is impregnated with products of nerve metabolism and is an eminently "neural" fluid capable of producing energetic reactions in any somatic tissue it meets. Thus there can be no question of its entering the blood stream in the relatively high concentrations that are satisfactory for lymph, and Nature meets the case by providing for its being heavily diluted before it is allowed to join the somatic blood in the cranial sinuses.

The most characteristic feature of the cerebro-spinal fluid as it exudes from the choroid plexuses is its remarkably low solid content. It is by far the most watery secretion produced by the normal body, and one might almost say it is an attempt by Nature to secrete pure water. It contains a small amount of the diffusible substances of the blood, but practically nothing else. So strong is the tendency to keep the fluid watery that the choroid plexuses have a truly astonishing impenetrability to drugs and other foreign substances circulating in the blood. Even the bile pigments in cases of jaundice fail to find a passage. This fluid, practically amounting to nothing but water, is secreted in large quantities; on rare occasions I have had the experience of seeing as the result of accident what was perhaps a large fraction of the total secretion of cerebro-spinal fluid discharged on the surface. The amount of fluid escaping has been very large and the consequent inanition correspondingly profound. The normal function of this great flow of water we may suppose with some confidence to be to flush through the whole subarachnoid space and to dilute the products of cerebral metabolism to such a degree that the resulting fluid can be safely admitted to the general blood stream. This view gets some confirmation from the evidence we have that the fluid in the subarachnoid space has a larger solid content than the fluid in the ventricles.

It is interesting to reflect that the source of this mysterious secretion which has given so much difficulty to the chemical physiologist may turn out to be no more abstruse a thing than Nature's nearest approach in the animal body to a spring of plain water; if this should be so, it may also remind us of the small and amusing coincidence that one part at any rate of the tortuous channel through which the fluid runs—the *aqueduct of Sylvius*—has since the very early days of anatomy borne a singularly exact and appropriate name.

In our review of certain aspects of the nervous system we have found reason to regard as of fundamental importance the preservation of an impenetrable barrier between the whole of the nervous system and the rest of the body. This barrier we have seen to be made up of a number of highly special structures and mechanisms. Its function is on the whole to prevent contact between the neural and the non-neural, but is also in certain places to permit it. These places are only two: first, where the motor nerve end comes into contact with the muscle fibre, and secondly, where the naked arborization of the pain nerve meets the tissue in which it is distributed. The nervous system is thus kept apart from the body, as we may say, in order that when the two are permitted to meet the reaction shall be the more energetic. It is in fact, then, of the very essence of nervous tissue that it should be different from the other tissues, so that it can irritate and be irritated by them. This necessity for a certain "strangeness" of the nervous system may possibly throw some light on its curious embryology. The origin of the nervous system, as an epiblastic tube originating on the surface of the body and then sinking into its substance, has been investigated chiefly from the morphological point of view, and great ingenuity and research have been expended on it. It may be worth suggesting, however, that the problem has also a functional side, and that the epiblastic origin of an organ that is ultimately to be deeply embedded in mesoblastic tissues possibly has the function of contributing its strangeness, and therefore its effectiveness, to the nervous system as a whole. This quasi-hostility between neural and somatic, between brain and body, is a suggestive and perhaps a disturbing thought, but we shall not attempt here to follow it out.

Neural Insulation in Pathology.

It is more convenient at the moment to consider certain pathological evidence that has some bearing on the conclusions we have already reached.

That the central nervous system differs from other organs in having a certain inaccessibility has long been recognized in connexion with syphilis. The difference between the strictly extraneural mesoblastic infection of the meningeal gumma on the one hand, and the intraneural parenchymatous infection of general paralysis on the other, shows that the frontier between the two regions is as sharply marked pathologically as it is physiologically. Moreover, the relative inefficacy of antisyphilitic treatment in the parenchymatous infection reminds us that the frontier is also impassable for many drugs.

The dura and arachnoid are in some sense intermediate tissues, for they show a certain tolerance for both neural and non-neural contacts, the arachnoid having slightly greater affinities for the former, and the dura perhaps for the latter. That they are, however, fundamentally non-neural in their behaviour, and probably also in their nature, is suggested strongly by their relations to certain tumours. The glioma is probably the one truly neural tumour that affects the central nervous system. Although it behaves within the brain as a malignant infiltrating growth, its spread is restrained by the neuro-somatic barrier, so that while in exceptional cases it may affect the meninges and skull by pressure atrophy it can never invade them or extend to the tissues of the body. On the other hand, the so-called "dural endothelioma," which is relatively so common as a growth involving arachnoid and dura, frequently shows the power to infiltrate the skull and overlying parts as a malignant neoplasm; but although it may press deeply into the brain it never invades it, being restrained as effectively in the one direction as is the neural glioma in the other. The behaviour of these two tumours has long been familiar, but seems always to have been accepted as very much a matter of course. It is perhaps more reasonable to regard it as one of the most significant anomalies in the whole of pathology.

Our final pathological illustration takes us back to the peripheral nerve. We have already seen that this is the only part of the nervous system where a breach of insulation produces immediate and definite disturbance of function. The neurilemma seems fortunately, however, to be an exceedingly effective barrier between neural and somatic tissues. There is clinical evidence that a relatively slight subcutaneous injury can lead to the formation of a neuro-fibroma presumably through damage to the neurilemma; but this is a rare event of little practical importance, and failing gross injury the insulatory mechanism is wholly satisfactory. That this is the result of effective restraint rather than inertia on the side of the nervous system is perhaps shown by that fortunately rare complaint multiple neuro-fibromatosis or Recklinghausen's disease. In this condition it has been shown that every fibromatous formation, localized or diffuse, contains nerve fibrils which, presumably by their irritant qualities, have given rise to the fibrosis, much as might a foreign body or a micro-organism of highly attenuated virulence. It seems clear that it is the presence on a large scale of nerve fibrils outside their normal insulating sheath which is the proximate cause of the morbid state. It may be doubted whether the neural leakage is a primary manifestation or is due to an essential weakness or collapse of the insulating

THE THYROID AND MANGANESE TREATMENT IN ACUTE PNEUMONIA.

BY

HERBERT W. NOTT, M.R.C.S., L.R.C.P.,
LITTLE SUTTON, BIRKENHEAD.

Two papers on the thyroid and manganese treatment were published in the BRITISH MEDICAL JOURNAL last year. The introductory one (March 7th, p. 443) reported a series of cases, presumably of toxic origin, which had shown improvement enough to suggest that the method explained therein might prove useful.

The second (December 26th, p. 1209) was chiefly concerned in describing its influence in the treatment of abnormal blood pressures. An early verdict was asked for on this subject; and it is more than favourable, inasmuch as others have reported that the thyroid and manganese cachets are often successful in lowering high tension. This was not known when the paper was published, and these reports have come from as far as Central Africa.

Both papers were founded on facts observed by others besides myself, and so far no one has controverted them. On the other hand, confirmatory evidence is accumulating and an extension of the treatment has been suggested to other diseases. The present paper is to show the unusual effects which have been obtained when using it in the treatment of acute pneumonia.

What I have to say will be told in narrative form, and, as far as possible, free from details, because no one yet knows why potassium permanganate, held in aqueous solution and injected into the rectum, should give such good results. Besides which, it is undesirable to try the patience of readers with debatable points of a treatment for pneumonia so definite, so practical, and so obviously successful. The explanation will have to be thrashed out in laboratories and hospitals in this and other countries where team work is available.

How has it become possible to state categorically, and with no fear of contradiction, that ordinary pneumonia, unaccompanied by intercurrent affections, or occurring at too advanced an age, is one of the easiest diseases to arrest and cure? Mainly by the cordial co-operation and work of five doctors and two ladies—Drs. Kerr, Farr, and Pennington of Ellesmere Port, Dr. Hanratty my assistant, and myself; helped by the able services of Miss Jeans, matron of the Whitby Cottage Hospital, Ellesmere Port, and her assistant, Miss Barret. Had it not been for the untiring zeal of these two ladies much of what follows could not have been written until months had elapsed. By the courtesy of this group of observers I have been allowed to see some of their cases whilst under treatment, and I have before me notes, histories, and many of their temperature charts which, with our own, together with one from Dr. Grace of Chester, and another from Dr. Pirrie of Maldon, Essex, comprise forty cases.

I will not weary my readers by taking these cases seriatim, or by attempting to classify them, this being unnecessary when all of us have been using a single agent which has controlled every case of undoubted pneumonia treated with it from the age of 6 months to 71 years. Half of them were above the age of 18 and half below; the majority were cases of lobar pneumonia, and two deaths occurred—one a lady aged 60, and the other a man aged 71, both of whom died of intercurrent diseases, seven days after a lysis had been brought about in the first case and two days after a crisis had been induced in the latter. (See Dr. Grace's and Dr. Pirrie's abbreviated reports at the end of this paper.)

It was in March, 1924, that the first case of acute pneumonia was treated by this method.

A youth, aged 16½ years, received half a pint of the standard solution twice daily, beginning on the fourth day of the disease. His was a moderately severe case, with extensive involvement of the left lung. His temperature had reached 103.2°, with all the usual symptoms of distress and a moderate amount of rusty and adhesive sputum. Soon after the first injection had been given and retained he said he felt more comfortable, and could cough up the expectoration more readily. A few hours after the second injection his temperature dropped to 101.2°, and the rusty sputum suddenly disappeared, never to return. His cough lessened rapidly, the expectoration became frothy and white, and still less difficult to get rid of. Greater relief followed the third injection, and thirty-six hours after beginning the treatment his temperature fell to normal. He was also given a thyroid tablet 1/2 grain (dry 1/10 grain) twice daily, and this dose was continued for two weeks, but the injections were stopped on the eighth day. Convalescence was rapid and less exhaustion was observed than is usually seen after pneumonia.

The next case was that of a girl aged 12½ years, suffering from double pneumonia. She was the first to come into the hands of Miss Jeans and Miss Barret. She was treated in a similar way, beginning on the fourth day. Quick relief was experienced, but the temperature did not reach normal until the end of three days. Here again there was less exhaustion than is usual after an illness of such severity.

The third case was a man, aged 24, who had a small localized patch of pneumonia at the base of the left lung; he was sent to the same hospital, where he received two injections on the second day of the disease, three-quarters of a pint of the standard solution being given on each occasion. On the morning of the third day his temperature was 103.2°, but seven hours after the third injection it fell by crisis to normal, and remained normal. He wanted to get up the next day, declaring he had only had a chill and that it was absurd to say he had been suffering from pneumonia. But being assured that there were still signs of pneumonia in his lung he consented to stay in bed ten days, though all crepitations had gone by the third day after the crisis. Treatment was continued for a week.

These three cases suggested that potassium permanganate might have a true specific action on the organisms of pneumonia, so Drs. Kerr and Farr used it in a child aged 4 years in the last stages of pneumococcal meningitis, who was occupying a bed in the Whitby Cottage Hospital. This case was reported in my paper of March 7th, where it was described how the child did well and walked out of the hospital some three months after commencing treatment.

These two doctors, being now thoroughly interested in the subject, sent in quick succession four children suffering from bronchopneumonia, whose ages ranged from 6 months to 6 years. All did well, the disease aborting in two of them within thirty-six hours; and as at this time better results were being seen in the treatment of pneumococcal arthritis by giving three daily injections, more frequent injections became the custom at the hospital, and in private, when treating acute pneumonia. Somewhat later we found that by doubling the strength of the solution even better results were obtained (Figs. 1, 2, 4).

In the meanwhile Dr. Pennington had had good results in the toxaemias of pregnancy, and began using the method in pneumonia.

Recently he treated a man aged 50, a very desperate case, where the pneumonia was accompanied by alcoholic delirium and high fever. Besides Dr. Pennington, Dr. Farr and Dr. Hanratty saw him soon after admission, and all of them thought he was too hopelessly moribund to respond to the treatment. Yet he lived, and went out for walking exercise in the garden three and a half weeks later. He received injections, on an average, every four hours from the time of admission, and his temperature fell from 103° to 101° in ten hours. He was much less delirious, with fitful consciousness, in thirty-six hours. Twenty-four hours later he was completely conscious, with an almost normal temperature, and he began to grumble about the small quantity of food he was being allowed (Fig. 3).

A severe case of septic pneumonia, confirmed by bacteriological examination, has lately been treated.

A youth, aged 17 years, was carefully attended to by two nurses and treated on the principles described below. He was steered through a dangerous illness without undue anxiety to those in attendance. Dr. Murray Cairns of Liverpool saw this youth in consultation, and agreed with the method we were using, saying he had seen a case of streptococcal invasion of the lungs do well with it. No complications occurred in this case, and the patient was out of bed at the end of the third week. Dr. W. H. Grace (honorary pathologist, Chester Royal Infirmary) reported: "This sputum contained many streptococcal chains in the direct films and the cultures gave abundant growths of a *Streptococcus longus*. I considered this a very severe streptococcal pneumonia." (See Fig. 5.)

THE TECHNIQUE.

When this treatment is used for pneumonia aperients are avoided as far as possible for fear of driving intestinal toxins into the circulatory system. The bowels are gradually unloaded by the permanganate injections, or small doses of calomel are given when evacuation is not as complete as it should be. The solution used is made by adding two grains of pure potassium permanganate to one and a half pints of water, which should be comfortably hot; from three ounces to half a pint are used on each occasion,

SPIROCHAETOSIS ICTEROHAEMORRHAGICA IN NORFOLK.

BY

F. W. BURTON-FANNING, M.D.CANTAB., F.R.C.P.,

AND

A. J. CLEVELAND, M.D.LOND., F.R.C.P.,

PHYSICIANS TO THE NORFOLK AND NORWICH HOSPITAL.

DURING the last fifteen months we have seen four cases in Norfolk presenting the clinical features of spirochaetosis icterohaemorrhagica. Though the actual presence of the spirochaete was only proved in one, the symptoms and course of the disease were so similar and distinctive in all that we think we may assume the identity of their affection. The organism is acknowledged to be elusive, and we had no opportunity for animal inoculation. A closely studied series of eighteen cases in East Lothian has been described by G. L. Gulland and G. Buchanan,[1] but in England we find the record of only one case, by Dr. Philip Manson-Bahr.[2]

The cardinal symptoms of the disease are so few and so constant as manifested by our patients that a brief account of each will be given.

CASE I.

A man living in the outskirts of North Walsham, who had retired and occupied himself in his garden, was in good health until December 9th, 1924. On that day he felt exhausted and unable to eat. For the next few days he remained in bed on account of this sense of prostration.

On December 13th he was seen by Dr. J. Shepheard and later by Dr. D. Hart and one of us The temperature was 101°, the pulse was 80, and the tongue was dry. On the following day jaundice was perceptible; the temperature was 99° and pulse 70.

On December 15th the temperature was 97.6° and pulse 60. But the jaundice had increased and the tongue was more dry.

On December 18th no urine was passed; the excretion had been diminishing previously. Haematemesis recurred every few hours.

On December 19th the condition was obviously grave; no urine was passed and haematemesis persisted. The temperature was 97, pulse 60, and the blood pressure 120.

On December 20th death took place somewhat suddenly. There had been suppression of urine for three days and melaena occurred. The liver and spleen had never been palpable.

CASE II.

A tramp, aged 26, was admitted to the Norwich Poor Law Infirmary on May 3rd, 1925. He had been taken suddenly ill four days previously with prostration, headache, and dizziness.

On admission he was jaundiced, with epigastric tenderness, vomiting, and slight fever. The urine contained albumin and bile, but leucin and tyrosin were not present.

On May 6th jaundice was more marked, the tongue was dry, and he was drowsy. On May 10th there was epistaxis, and on May 13th he gradually sank and died.

Widal's reaction for the typhoid group was negative. No spirochaetes or other organisms were found in the urine, but the examination was not made of freshly passed urine. Blood drawn from the liver after death showed no spirochaetes.

CASE III.

A farmer, aged 57, living in an isolated house a few miles from Fakenham, whose previous health had been good, was taken ill with general pains and chilliness on December 16th, 1925.

On December 17th he was seen by Dr. E. W. Palin, who found a temperature of 102°, pulse 100, and tenderness in the upper abdomen. During the next three days there was no marked change.

On December 21st no urine had been passed, and the bladder was found to contain only one drachm, which was free from albumin. The temperature fell to 98°, pulse 80. The next day slight jaundice appeared and there was frequent vomiting, the contents becoming coffee-grounds.

On December 23rd the jaundice had deepened and there were haematemesis and melaena. On December 24th there was also free epistaxis. After three days' suppression some non-albuminous urine was passed.

During the next few days the urine was excreted, but the jaundice deepened and haemorrhage from the stomach, bowel, and nose persisted.

He died on December 27th. After his death his wife remembered that on December 10th he had been scratched or bitten on the face by a rat. No mark, however, was left.

CASE IV.

A fowl-dealer, aged 53, from Hindolvestone, was sent to the Norfolk and Norwich Hospital by Dr. G. S. Keeling of Attleborough on January 23rd, 1926.

On January 14th there had been sudden onset of illness with general pains and rise of temperature, though an exact record was not kept. On January 18th there was epigastric pain, relieved by vomiting, and hiccup. On January 19th jaundice was noticed; the liver and spleen were not enlarged.

On January 23rd the temperature was 97°, with pulse 92. The urine contained albumin and much blood. There were petechial haemorrhages about the skin. On January 26th profuse epistaxis occurred.

On February 2nd spirochaetes were found in the urine. From February 3rd to 18th the evening temperature was 99.4° to 100°, but gradual improvement was taking place, and on February 25th he was discharged convalescent.

In their important account of the disease Dawson, Hume, and Bedson[3] give as noteworthy features of spirochaetosis icterohaemorrhagica the following:

"A sudden onset with gastro-intestinal symptoms and high fever, the marked prostration, the occurrence of melaena and haemoptysis, the presence of haemorrhagic herpes, the appearance of jaundice on the fifth day, the fall of temperature at the end of eleven days, and the finding of typical spirochaetes in the urine."

Our four cases conformed closely to the above description in most particulars, but not in all. Our patients were attacked suddenly and prostration was extreme. With remarkable punctuality jaundice appeared on the fifth or sixth day. Haemorrhage from various parts occurred later with remission of fever. Herpes was absent in our cases. Renal symptoms were much more prominent. In two cases there was suppression of urine, though in one of these the excretion was re-established before death. Dawson, Hume, and Bedson refer to the fact that French authors "lay considerable stress on the evidences of renal insufficiency."

This suppression of urine obviously contributed largely to the fatal termination, and moreover prevented the confirmation of the diagnosis by the detection of spirochaetes in the urine. In our other cases there was albuminuria and in one of these there was haematuria. In Case IV the patient's general condition was very different from that of the others; he was never very ill, and haematuria was the chief renal affection.

The greatest contrast was in the gravity of the disease as we met it, for whereas Dawson, Hume, and Bedson estimate the mortality as from 4 to 5 per cent. amongst their cases seen in France during the war, of our four cases three died. There has been a remarkable disparity of mortality figures amongst foreign observers. We did not have the opportunity of using the antispirochaetal serum prepared for the Medical Research Council.

Dr. David S. Brough, assistant pathologist to the Norfolk and Norwich Hospital, kindly supplies us with the following information with regard to Case IV.

February 2nd.—A catheter specimen of urine was found by dark-ground illumination to contain spirochaetes in centrifuged deposit. They were numerous and as many as eight or ten could be distinctly seen in one field. Their spirals were more open and less regular than those of *S. pallida*, and their movement was slow and aimless. Some of the spirochaetes showed a certain amount of hooking of their ends. Spirochaetes continued to be found on each of the three following days, but at the end of five days had disappeared. Observations were made to ascertain the length of time during which spirochaetes could be recognized in the urine after its passage. It was found that at the end of twenty-four hours the spirochaetes were becoming granular and somewhat blurred, and after seventy-four hours were no longer to be recognized. Spirochaetes were not found in the blood.

Van den Bergh's Test.—Serum: (1) Biphasic reaction; (2) faint indirect action; (3) no direct action.

Blood Count.—Red blood cells 3,500,000 per c.mm., white blood cells 14,600, haemoglobin 42 per cent., colour index 0.6. Differential count: polymorphs 78 per cent., lymphocytes 16 per cent., mast cells 3 per cent., mononuclears 3 per cent.

To verify our idea that this disease is rarely recognized as a cause of death in England we applied to the Registrar-General, who informed us that in the four years 1922 to 1925 there had been seven deaths in England classified as spirochaetosis icterohaemorrhagica in addition to our own cases.

There was no possible connexion between our four patients. They were all country dwellers, but none had been working in particularly damp places, nor was it clear that their areas were especially infested by rats, the recognized carriers of this disease.

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[1] BRITISH MEDICAL JOURNAL, 1924, i, p. 313. [2] *Lancet*, November 19th, 1922. [3] BRITISH MEDICAL JOURNAL, 1917, ii, p. 345.

quietens and is more readily controlled after three or four doses have been well retained. But the most dramatic change of all is the sudden ceasing of the coloured sputum. It is not uncommon to see a bright red sputum in the morning and to find white frothy expectoration in the evening of the same day.

Sometimes there is a little free haemorrhage for an hour or so just before this change takes place, and as this may alarm parents or attendants they should be warned that it may occur. An hour or two later the sputum may be milky white. The pulse and respirations settle down according to the course of the temperature, which itself may rise a degree or so before the crisis or lysis sets in. Indications point to mixed infections being rather less responsive, though a sufficient number of bacteriological examinations have not been made to settle the point. Crisis is not infrequent, but descent is by lysis in most cases, taking on an average from two to three and a half days from the commencement of treatment.

A few practical points must be mentioned in connexion with this treatment, whether it is being used for pneumonia or other toxic complaints, which if not carefully attended to may tend against success. In the first place, it is always advisable that the medical attendant be present when the first injection is given, for many mistakes may be made and valuable time lost; besides which it is reassuring to the patient to know that the treatment is being conducted properly. Nurses have been found giving vaginal injections when rectal ones have been ordered; some are too hasty or clumsy in using the syringe, or funnel and tube, and may irritate the patient; whilst others are to be found who frankly express an opinion that they have "no faith in the blue injections," and the fluid is thrown away accordingly. A temperature chart will sometimes clearly disclose mismanagement of this kind, and suspicions raised thereby have been followed by confessions.

A word must be said also as to the awkward situations which naturally occur when a child, who was looking deadly ill with bronchopneumonia three or four days before, is seen half-sitting up reading a book or playing with his toys as unconcernedly as though he had just recovered from an ordinary cold; and when this is accompanied with a ravenous appetite doubting parents may think the diagnosis has been at fault. In some cases it may be better to have confirmation at the outset, in the interests of the child, for, as has been said already, too early cessation of treatment may allow of recurrence. It is disconcerting, too, to find an adult in his fourth or fifth day of the disease, and whose temperature was 103.3° a few hours previously, now with a falling temperature, calmly smiling, and wiping a little blood from his lips, hardly more inconvenienced than if he had been just relieved of a painful tooth under a local anaesthetic. But this tame and unexciting ending is not what the public imagines the crisis of pneumonia to be, and the diagnosis may again be called in question. So what are we to say? Difficult, no doubt; but cannot we reply with a little more faith than of yore, "Perhaps this manganese has raised the patient's power of resistance to pneumonia"? Nor need it prevent our hoping that some day we shall be able to state this as a proven fact.

As the introductory paper referred to above begins by stating that the idea of this treatment originated in the study of Colonel R. McCarrison's works, so this contribution may end by saying that the quelling of the dangers and horrors of pneumonia, with the reduction in its death rate that will follow, has come in the first place from his brilliant book *Studies in Deficiency Diseases*.

Reports from DR. GRACE *and* DR. PIRRIE.

This man, aged 71, was admitted to the Royal Infirmary, Chester, in a semi-conscious condition on the sixth day of the disease. He was a case one would have expected to lapse into coma. But on receiving two injections of the standard solution of potassium permanganate his temperature dropped by crisis to normal, and he regained consciousness. He died two days later from heart failure, with myocardial degeneration.

W. H. GRACE, M.R.C.P.

This lady, aged 60, was a semi-invalid, and had been suffering from pyelitis and cystitis for some time, which flared up during her attack of pneumonia. Rectal injections of potassium permanganate were given every four hours in her case, beginning on the third day of the disease; twenty-four hours later the temperature came down by a quick lysis from 103° to subnormal, taking three days to do so. Concurrently her pulse improved, and the respiration rate never exceeded 26; it was usually 22 to 24. She died seven days later from exhaustion caused by the pyelitis and cystitis. I have never seen a true pneumonia with such a remarkable absence of distress and toxaemia.

I. M. PIRRIE, *M.C.*, M.D.

MASTOIDITIS AND ITS COMPLICATIONS.

BY

W. MAXWELL MUNBY, M.B., CH.M., F.R.C.S.,
HONORARY AURAL SURGEON, GENERAL INFIRMARY, LEEDS;
AND
R. E. JOWETT, M.D., CH.B., D.L.O.,
HONORARY AURAL SURGEON, SUNDERLAND ROYAL INFIRMARY;
LATE AURAL OFFICER, GENERAL INFIRMARY, LEEDS.

THIS paper is a review of over 800 cases of mastoiditis operated on in the Leeds General Infirmary during the past six and a half years. In almost every case the operation was performed for an urgent condition, such as acute mastoiditis, obvious cholesteatoma causing symptoms, or recurrent polypi with pain. On account of the difficulties of hospital accommodation, the simple mastoid operation for the cure of persistent otorrhoea of short standing or the radical operation for chronic otorrhoea has been rarely performed. In all but a few of the fatal cases a report of the necropsy has been available.

For purposes of discussion the cases have been classified as follows:

1. *Complicated Cases:* Mastoiditis with, in addition, brain abscess, sinus thrombosis, or meningitis.
2. *Uncomplicated Cases:*
   (*a*) The simple acute or chronic case which runs a straightforward course.
   (*b*) Cases with extradural abscess and no further lesion.
   (*c*) Cases of tuberculous mastoiditis.

COMPLICATED CASES.

For practical purposes it can be said that one out of every four chronic, and one out of every nine acute, cases presents one of the above-mentioned complications for treatment. There is little difference in the mortality rate, that in the acute being slightly greater than in the chronic.

TABLE I.—*Incidence of Complications in Mastoiditis.*

	Cases.	Percentage of Complicated Cases.	Percentage of Total Cases.
Temporo-sphenoidal abscess	46	31.0	5.6
Cerebellar abscess	27	18.4	3.3
Meningitis, serous and purulent ...	21	14.3	2.5
Lateral sinus thrombosis	41	27.8	5.0
Occipital abscess	3		
No autopsy available or negative ...	2	12	8.5	1.7
Probable sinus thrombosis cases ...	7		
	147	100.0	18.1

Table I illustrates the relative frequency of each complication to mastoiditis as a whole Fuller details of each complication are given later.

1. *The Meningeal Syndrome.*—Before considering the individual complications it is necessary to comment upon a common manifestation suggestive of infective meningitis, which is nevertheless not necessarily present. Head retraction, vomiting, high temperature with semi-coma and irritability, frequently mask the complicating lesions. Meningeal irritation is undoubtedly present, but whether the condition known as meningitis in the *post-mortem* room causes it is doubtful. After exploration, even where the cerebro-spinal fluid is milky, some of these cases will recover. Others will be found to have a brain abscess or sinus thrombosis, of which the symptoms were not apparent,

according to the age of the patient. The fluid should be administered very slowly by means of a funnel and small tube, or by a Higginson's syringe, and the injections repeated from two and a half to four hours during the first twenty-four to thirty-six hours. The length of the interval between the injections depends upon what day of the disease the case comes under treatment, much in the same way as the dosage and frequency of the subcutaneous injections of serum are judged in the treatment of diphtheria. In ordinary cases, if the treatment is begun on the first or second day of the disease, intervals of three or four hours can be allowed; but when beginning on the fourth or fifth day, especially when the symptoms are severe, the intervals may be reduced to two and a half or even two hours. One must be guided also by the quantities the patient is able to retain on each occasion, shorter intervals being necessary when the fluid is quickly returned. Once the temperature reaches normal in adults and older children the injections are reduced to two a day for three days, and once a day for three more days, when they can be discontinued; or they can be replaced to the advantage of some by giving the combined thyroid and manganese cachets for a week or so. But in infants and ydunger children the injections should be continued twice daily for at least ten days after the temperature has reached normal, as there is a tendency to recurrence if they are given up too early.

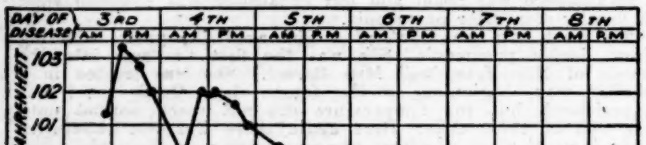

FIG. 1.—Dr. Kerr's case: Bronchopneumonia; child aged 6.

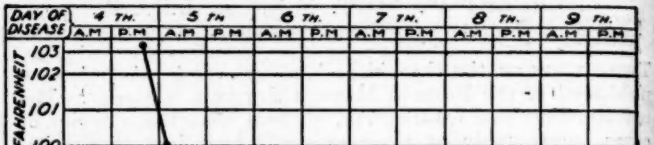

FIG. 2.—Dr. Farr's case: Bronchopneumonia; child aged 5.

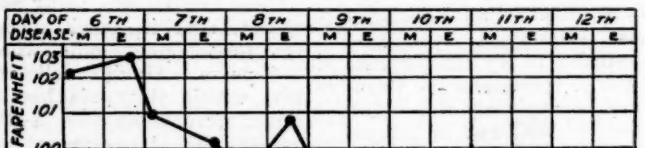

FIG. 3.—Dr. Pennington's case: Alcoholic pneumonia; male aged 50.

substance during the acute stage of the disease. Lately we have all come to look upon potassium permanganate as being specific in its effect, and most of us have not given thyroid even during convalescence. This is a matter for individual judgement and experience.

Those who, like myself, have seen the results of combining the two drugs in cachet form in treating toxic diseases will not hesitate to use it for a while during convalescence. If it may be conceded that thyroid efficiency is reduced by the suffocating effects of all toxaemias, whether acute or chronic, then the body should derive benefit from thyroid feeding until the gland has regained its power.

EFFECTS OF THE TREATMENT.

The changes seen in the clinical picture when these permanganate injections are given are very rapid indeed. After the first or second injection the character of the cough alters from a harsh hawking bark to an easier and softer sound; the respirations become deeper and a little slower, with reduction of pleuritic pain in consequence. After the second or third injection the sticky expectoration becomes much looser and more easily raised. The grey or dusky type of cyanosis disappears in eighteen to thirty hours, being often replaced by a rosy complexion in children, whilst in adults the pneumonia facies gives way to an expression of ease. Sleeplessness, if it has been a predominant symptom, ceases. After the very first injection a child with advanced bronchopneumonia will fall soundly asleep, and can be kept sleeping by repeatedly giving small injections. Reduction of active and noisy delirium is noticed after a few injections; the patient

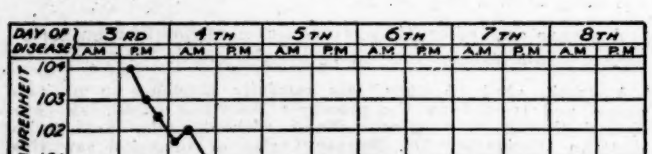

FIG. 4.—Dr. Hanratty's case: Bronchopneumonia; child aged 5.

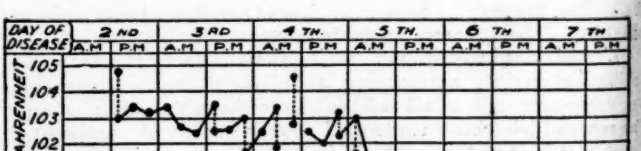

FIG. 5.—Septic pneumonia; youth aged 17.

A considerable quantity of mucus is seen in the stools, and the sooner it appears the more rapid is the improvement in the patient's condition. When ordinary uncomplicated pneumonia comes early under this treatment nothing more is ordered than a mild expectorant and poultices. Most cases have not needed hypnotics, but cardiac tonics and stimulants may be required, especially in septic cases. Owing to the rapid removal of toxaemia

tube has been removed at varying periods after operation from forty-eight hours, and there is still some doubt as to the best time for removal, but until discharge has ceased it should not be removed, and it is better to wait until it is extruded. In one case the tube remained for six weeks without untoward result.

Prognosis.

The prognosis of brain abscess is very serious. In our cases the mortality rate for temporo-sphenoidal abscess is 63 per cent., compared with 80 per cent. in the series which was described by Hunter Tod. This figure renders an opinion as to the ultimate result impossible in any individual case, and the chance of recovery seems to be almost as good in the cases with meningeal symptoms as in those without.

In cerebellar abscesses the prognosis is even worse, and in our cases the mortality rate was 88 per cent. Hunter Tod gives a death rate of 90 per cent. This high death rate is explained by: (1) The difficulties of diagnosis (*a*) on account of the frequent concomitant symptoms of basal meningitis, masking those of the brain lesion, and (*b*) the frequent occurrence of sinus thrombosis as an added complication. (2) The difficulties in treatment. The cerebellar lesion is more difficult of access and drainage than the temporo-sphenoidal. Of thirty-one cases of temporo-sphenoidal abscess where the abscess was opened and drained, seventeen recovered (55 per cent.). Of eight cases where cerebellar abscesses were opened and drained only three recovered (37.5 per cent.). It is possible that in the future more frequent brain exploration in the doubtful cases will increase the chances of recovery.

After-Results.

Attempts to follow up cases of the hospital class are notoriously unsatisfactory. Headache and a mental instability, well described as childishness, persist for some time, but no gross sequelae have been encountered. One case died subsequently of malignant endocarditis.

Incidence of Sinus Thrombosis in Brain Abscess.

In our series of cases sinus thrombosis was a concomitant complication in 33 per cent. of the cerebellar abscesses and 15 per cent. of the temporo-sphenoidal. This increased frequency in cerebellar abscesses is explained by the fact that the lateral sinus is a very frequent source of cerebellar infection. This point is of great practical interest in the consideration of the brain lesion, where the symptoms of sinus thrombosis may mask those of the brain abscess, or their urgency result in an insufficient examination of available signs before, during, or after operation. Recovery took place in two of these double lesions. This association may also be expressed by stating that in fifty-seven cases of sinus thrombosis brain abscess occurred sixteen times (30 per cent.). Combined cerebral and cerebellar abscesses have not occurred. Three cases of occipital abscess have been discovered at necropsy.

LATERAL SINUS THROMBOSIS.

The incidence of lateral sinus thrombosis, excluding cases with brain abscess, is shown in Table III.

TABLE III.—*Lateral Sinus Thrombosis.*

Excluding cases with brain abscess, 41 cases. Incidence in mastoiditis 4.9 per cent. Mortality 75 per cent. No cases with ligature of internal jugular vein without exploration of sinus.

	Total Cases.	Acute.	Chronic.	Recovery.		Death.	
				Ac.	Chr.	Ac.	Chr.
A. Sinus not explored; vein not tied—that is, doubt in *ante mortem* diagnosis; S.T. on necropsy	15	11	4	—	—	11	4
B. Sinus explored and vein not tied	15	4	11	1	5	3	6
C. Sinus explored and vein tied ...	11	1	10	—	4	1	6
Total	41	16	25	1	9	15	16

Lateral sinus thrombosis alone occurs in about 5 per cent. of all cases of mastoiditis, and is more common in the course of chronic than acute disease, although in this relation the difference in incidence is not so marked as in the case of brain abscess. The mortality is 75 per cent.

Acute Mastoiditis.—This complication was found in sixteen acute cases, only one of which recovered. The reason for this is found by reference to Table III. In section A are the cases where the sinus was not explored, and the jugular vein not tied. The majority of this class are acute cases. Scrutiny of the records shows us that the majority of these patients were children, and in most the course of the disease was atypical. In such cases the simple mastoid operation was performed for acute mastoiditis, after which the temperature continued to be intermittent and the child to be slightly indisposed. No rigors occurred. In many a perisinus abscess was exposed, but the condition of the sinus at operation was not considered to justify exploration. This exploration was postponed on a "wait-and-see" policy until the onset of broncho-pneumonic signs or metastasis proved the true state of affairs, after which treatment was of no avail.

Chronic Mastoiditis.—The cases where treatment was directed to the sinus thrombosis are enumerated in Table III, and the results are more satisfactory. These are largely chronic cases. Generally speaking, in the acute case the onus to reduce the mortality rests with the surgeon, in the chronic with the physician. As far as can be judged, in the chronic case the high mortality does not depend so much upon the type of infection or the mode of treatment adopted as upon the delay before these cases come for treatment. In most, a history can be obtained of recent severe prostrating illness; there is not the story of vague indisposition which often precedes the more definite symptoms of intracranial abscess. Most of this series had a history of pyrexia over a long period; many had repeated rigors. It is lamentable that these cases were not sent for treatment, say, after the first rigor, when evacuation of a perisinus abscess would possibly have preceded an uneventful recovery, as has occurred in many cases classed initially as uncomplicated.

Treatment.

As indicated above, exploration of the sinus must not be postponed long in those acute cases with intermittent temperature, even though the condition of the sinus, if this was exposed at a previous operation, did not seem to indicate it. Thrombosis can be present in a pulsating sinus which has a normal tunica adventitia. Exploration by incision is the only satisfactory method.

The bulk of the enormous literature on sinus thrombosis concerns ligature of the jugular vein and the indications for it. Recently Laurens has condemned the procedure as unnecessary, and there are grounds for this statement. Inspection of Table IV shows that there is not much difference in the mortality rate between the series in which it was tied and that in which it was not. In our opinion the indications for ligature are few, but can be well defined, and there is no question as to the usefulness of the procedure in cases where these indications are present. The vein should be tied:

(1) When on exploration of the sinus the clot cannot be entirely removed from the lower end.

(2) If, after complete emptying of the sinus on exploration, a rigor occurs, or an intermittent temperature persists for more than forty-eight hours.

Ligature or any operative intervention after the onset of the pulmonary signs of pyaemia entails a high operative risk. Two out of three deaths under anaesthesia in this series were such cases.

MENINGITIS.

Purulent meningitis, uncomplicated, is the most uncommon complication, and occurred in only fifteen cases—an incidence of 1.75 per cent. "Serous" meningitis was found in six other cases, which were operated upon with good

and the prognosis with suitable treatment of these lesions is favourable in a fair proportion of cases. In all such cases the risk of immediate and thorough exploration must be undertaken. In eleven of our cases operations were not undertaken on account of severe meningeal symptoms. Six of these cases were found to have brain abscesses. Purulent meningitis is a rare complication of otitis and mastoiditis in the absence of another lesion.

2. *Brain Exploration.*—In many cases, in the presence of meningeal symptoms and where brain abscess is suspected, one is strongly tempted to explore the brain, but refrains, because of the possible effects of trauma or of sepsis following such a procedure. In such cases an exploratory brain puncture may be the only chance of proving the presence of brain abscess, and it has been found that this operation can be undertaken with only slight risk.

Twenty-seven cases, all presenting meningeal symptoms or symptoms suggesting abscess, were explored with a negative result. Of these, 3 were found *post mortem* to have purulent meningitis; 12 an abscess, with or without other complications; and 3 had lateral sinus thrombosis. Eight recovered, these being probably cases of serous meningitis presenting the masking syndrome. In one the complication present was doubtful. No *post-mortem* examination was allowed. Of the eight cases which recovered, not one showed any effects attributable to brain exploration.

BRAIN ABSCESS.

A statistical record of the cases of brain abscess is given in Table II.

TABLE II.—*Brain Abscesses.*

	Total Cases.	Incidence in Mastoiditis.	Diagnosed.	Suspected.	Not Diagnosed.	Not Opened (Died).	Opened (Died).	Total Deaths.	Death Rate.	Opened (Lived).	Sinus Thrombosis Superadded.	Incidence of S.T. as a Complication.	Acute Mastoiditis.	Chronic.	No Operation.
		%							%			%			
Temporo-sphenoidal	46	5.6	32	7	7	14	15	29	63.0	17	7	15.2	6	37	3
Cerebellar ...	27	3.3	8	9	10	19	5	24	88.0	3	9	33.3	6	18	3
Total ...	73	9.0	40	16	17	33	20	53	72.6	20	16	22.0	12	55	6

Temporo-sphenoidal abscess occurs in about 6 per cent. of all cases of mastoiditis. In this series it has been six times more frequent in the chronic than in the acute cases. Cerebellar abscess, on the other hand, is about half as frequent as temporo-sphenoidal abscess, and occurs three times more frequently in chronic disease than in the acute variety.

Diagnosis.

The signs and symptoms in any given case vary enormously, and it is impossible to divide the course of the disease into stages, as has been frequently attempted. Intracranial abscess defies rule-of-thumb methods of diagnosis, and exploration is frequently justified by the presence of one sign or symptom alone. A few notes on the reliability of certain features of the symptomatology are, however, worthy of consideration.

General muscular wasting is a more prominent sign in cerebellar than in temporo-sphenoidal abscess. Cerebral hebetude and irritability are by no means common, but in some cases slow cerebration does occur. The majority of patients are quite rational, complaining only of weakness and loss of physical and mental energy. The semi-comatose condition occurring in the late stages is most frequently seen in association with meningeal signs. Headache of distracting severity is the commonest symptom. It is not necessarily localized, but is often frontal and bilateral. An extradural abscess or sinus thrombosis will cause headache of equal severity, but persistence of this symptom after treatment of such a lesion would justify an exploratory brain puncture. Vomiting is inconstant, is not often effortless, and sometimes occurs after meals, simulating a food vomit. The temperature chart is a most unreliable guide. A subnormal temperature is rare, and even in the absence of other complications the majority of these cases have a normal temperature or an abnormal one of remittent, intermittent, or continuous type up to 103° F. Much more useful is the disproportion in the pulse temperature ratio, the pulse being frequently ten beats or more subnormal, taking a normal rise in pulse rate of ten beats for every degree rise of temperature as a standard. Optic neuritis is rare, though more frequent in cerebellar than in temporo-sphenoidal abscess.

Temporo-sphenoidal Abscess.—The diagnosis of this condition presents less difficulty than that of cerebellar abscess. In only seven out of forty-six cases was the condition definitely undiagnosed, although the signs referable to the nervous system are more indefinite than in cases of cerebellar abscess, and we explain the apparent discrepancy on the ground of the more frequent occurrence of meningeal and sinus thrombosis symptoms in the latter, which symptoms mask the less manifest brain condition. The presence of aphasia of the type in which there is inability to name objects or sounds, for which loss the patient compensates by description, is of great use in diagnosis of left-sided lesions. A fixed, dilated pupil on the side of the lesion is occasionally present early enough to be of assistance in diagnosis. Contralateral hemiparesis is rare, and interference with the motor tracts is not often seen.

Cerebellar Abscess.—Examination of the nervous system is of more value than in temporo-sphenoidal abscess. Optic neuritis is more likely to be present. Ophthalmoplegias have not been noted, except the phenomenon of skew deviation, which has only been found in association with semi-coma. Nystagmus is infrequent, but always to the side of the lesion. There is usually atonia with ataxia, and loss of the deep reflexes can be demonstrated. The past-pointing test and the sign known as dysdiadokokinesia have been useful. Marked deafness, which is sometimes found, is an important sign, indicating involvement of the opposite auditory tracts by pressure.

Treatment.

The mastoid operation is first performed, either simple or radical according to the indications present. The dura mater is then exposed in either the posterior or middle fossa. In doubtful cases the direction of spread of the bone disease is helpful as an indication which fossa to expose and explore. Frequently a localized pachymeningitis externa or fistula will indicate the spot for exploration. A large-bored Gauvain's needle or a thin-bladed scalpel can be used. In those cases where pus is not immediately evacuated the brain can be explored in several directions to a depth of one and a half inches, and some reliance may be placed on an odour clinging to the exploring instrument after withdrawal, if pus has not been immediately evacuated. Whether puncture is performed in front of or behind the lateral sinus in cerebellar abscesses depends upon the position of the sinus, but for drainage the posterior route is the more satisfactory. If successful the opening in the dura mater is enlarged to admit a rubber drainage tube one-third of an inch in external diameter with a moderate bore, with the end turned back like a flange to make it self-retaining, as advised by Dundas-Grant. Cerebellar abscess is difficult to drain, as the tube becomes blocked with diffluent brain matter and there is a liability to kinking of the rubber tube. A medium sized Parker's tracheotomy tube is appropriate by reason of its curve and length, and can be held in position by means of tapes. The posterior wound is closed as far as possible, or lightly packed with gauze. On account of the small opening in the dura mater and bone obtained by this method of access no trouble has been experienced in the way of hernia cerebri.

Speed in operating and a short period of anaesthesia are without doubt essential, but some care must be taken over the ear plastic in the radical cases to give good and easy access to the mastoid cavity for after-treatment. The subsequent dressing of the case when the patient is semi-conscious and refractory is by no means simple, and stricture of the canal must be especially avoided. The drainage

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

EPIDEMIC ENCEPHALITIS WITH SEVERE INVOLVEMENT OF THE SPINAL CORD.

THE following case, which appears to be one of epidemic encephalitis in which the spinal cord was seriously affected, is of sufficient rarity to be worth recording.

A married woman, aged 31, was admitted into Addenbrooke's Hospital on November 26th, 1923, for loss of sensation and paralysis of the trunk and lower limbs.

History of Illness.—The patient was confined on November 9th, 1923, and the child was born without medical assistance. Four days later her bladder became distended, and it had since required daily catheterization. On November 16th she noticed "pins and needles" sensations in her toes; these sensations seemed to pass upwards as far as the level of the breasts, and were followed during the next few days by loss of all sensation from there downwards. At the same time she also had shooting pains at the back of the neck, across the shoulders, and down the upper limbs. During the following days she began to lose power of movement, first in the toes, then in the whole of the lower limbs, and for the last three days she has been unable to move the latter. Two weeks before admission she began to see double, and this has continued intermittently. For about a week she has been very drowsy, being unable to keep awake even when friends came to see her.

Previous History.—The family and previous history were of no special importance; she had had four children. Her health had generally been good except for "bilious attacks" and constipation, but six weeks previously she had had an attack of jaundice.

Condition on Admission.—She was an intelligent woman, with good complexion and nutrition. Her pupils were normal in size and movement, and ptosis and strabismus were absent. Movements of the eyes from side to side caused pain and slight nystagmus; occasionally diplopia was present. Her hearing was good. The muscles of the face, jaw, and tongue were normal. She complained of pain and stinging at the back of the neck and down both upper limbs; sensation over these areas was otherwise normal. There was a slight loss of power in both forearms, as shown by a weakened grip; the reflexes were increased, but there was no obvious wasting. From about the level of the third rib downwards, over both trunk and lower limbs, there was complete loss of sensation to touch, pain, and changes of temperature. Joint and muscle sense and vibration sense were all absent. There was a small ulcer over the hepatic region from the burn of a hot bottle, and a blister on the big toe from sitting too near the fire, neither being felt at the time; there was a bedsore over the sacrum. The epigastric and abdominal reflexes were absent. The lower limbs were completely paralysed; the knee-jerks and ankle-jerks were absent and the plantar reflexes were extensor. The abdomen was distended and the bowels constipated. The bladder was distended and void of sensation; the urine was acid, specific gravity 1020, and it contained a little albumin and pus. The movements of the chest were diminished, but the heart and lungs were normal. The temperature was 102.8°, pulse 124, respirations 26.

Course of the Illness.

On November 28th the patient was very drowsy and fell asleep while being washed. The left knee-jerk was just perceptible. On November 30th lumbar puncture was performed and cerebro-spinal fluid removed under increased pressure; it was very faintly opalescent; leucocytes 150 per c.mm., lymphocytes 90 per cent., polymorphs 10 per cent. On culture it was sterile (Dr. W. H. Whittle). Wassermann reaction negative.

On December 1st both knee-jerks very slightly present. Tapping the calf muscles caused extensor response at the ankle-joint. Temperature normal. Two days later she complained of "jumps" in the lower limbs. Right knee-jerk only present; plantar reflexes absent; diplopia less. Could use hands better and feed herself.

By December 12th the temperature, which had fallen since her admission, began to rise again, and was then 103°; this was due to a *B. coli* infection of the urinary tract. For the next two months the patient had a high temperature and was extremely ill, and for several months afterwards she had periodical attacks of pyrexia, with sweating, vomiting, and increased pyuria.

On December 17th she had cramps and pins and needles sensation in the lower limbs; phlebitis of left thigh. On December 28th she was very drowsy in the daytime. Plantar reflexes extensor. The bedsore over the sacrum had become very large.

On January 14th, 1924, sensation was present as low as the tenth dorsal spine. On February 1st the lower limbs were wasted; knee-jerks absent; plantar reflexes extensor. On February 25th the movements of the lower limbs were improving; cramps were occasionally present.

On March 24th the left lower limb was sensitive to touch. Two days later she passed urine normally, the ulcer was healed, and the bowels acted normally. There was occasional incontinence of urine. Abdominal reflexes absent; knee-jerks present, ankle-jerks present; plantar reflexes extensor. She could move both lower limbs. Sensation to touch was present all over the trunk and limbs.

By October 3rd the knee-jerks had increased; plantar reflexes extensor; there was no ankle clonus. On December 15th she could raise both lower limbs off the bed and bend the knees. By January 16th, 1925, she could stand if steadied, and could distinguish hot and cold, sharpness and bluntness, over the lower limbs. On February 10th she could walk, if supported in maintaining her balance. Two months later she walked better, but balance remained poor; she had control over bowel and bladder.

Recently the patient wrote to say that she was still slowly improving. She could walk a little with a stick and work about the house, but still had some stiffness and cramps in the legs.

My thanks are due to Professor A. J. Hall, who kindly saw the patient and suggested publication, and to Ward Sister Jones, to whose unwearying attention the patient largely owes her recovery.

JOHN ALDREN WRIGHT, M.D., M.R.C.P.,
Cambridge. Physician to Addenbrooke's Hospital.

MANGANESE IN FURUNCULOSIS.

THE dramatic results often obtained by the use of intramuscular injections of collosol manganese in furunculosis are well enough known, but far less frequently is this preparation given by the mouth. Among children, particularly infants, it is obviously desirable to use the oral method if equally effective. A particular case recently under my care exhibits, I think, a rapid and successful result.

A female child developed, at the age of about 12 months, several boils in the region of the buttocks, with no evident focus of infection. Originally breast-fed, weaning on sound lines had been successful; no alimentary disturbance had occurred, nor was there any reason to suspect any degree of constipation. The teeth were somewhat late in development, but there was no evidence then, or later, of rachitic or other disease. The urine was normal and contained no sugar. Various modifications of diet, bearing in mind especially the question of an underlying disorder of carbohydrate metabolism, were of no avail; local applications were equally ineffective, and for a period of six months crops of boils increased both in numbers and in severity on the buttocks and lumbar region, causing much pain, fretfulness, and irritability.

At the age of 18 months, at a time when several boils, one particularly large, were developing, treatment by collosol manganese was tried, beginning with a dose of 4 minims three times daily in water after food. Within three days the development of these boils was evidently arrested, with hastened absorption of earlier ones. After three days, the dose was increased to 5 minims thrice a day for a similar period; at the end of that time the boils had entirely disappeared, and much of the long-standing induration, the result of repeated crops of boils, had also disappeared. The dose was increased to 6 minims thrice a day for three days, and then to 7 minims for a further three days. At the end of this period—that is, after twelve days' treatment—the area appeared completely normal with the exception of a few bluish patches, the result of some twenty or more old-standing and long-persisting boils. The manganese was then stopped, collosol ferromalt being given in half-drachm doses twice daily after food; this also was well tolerated by the child.

Throughout the treatment no digestive disturbance arose. The general condition improved steadily and fretfulness and irritability ceased. It would seem, therefore, that in the oral administration of this preparation we have a valuable means with which to combat cases such as this, in which no error of diet or of general hygiene seems to have been responsible.

MAURICE L. YOUNG, M.A., M.B., M.R.C.S.
St. Albans.

QUININE POISONING.

A MARRIED woman, aged 28, thinking she was pregnant, procured 60 grains of quinine sulphate in powder from a chemist, dissolved it in hot whisky and water, and swallowed the whole at 10 p.m. She was alone in the house, and at 11 p.m. her neighbours were awakened by her shouting.

For an hour afterwards she was delirious, and had to be held down in her bed. When I saw her, at 1.30 a.m. next day, she was unconscious and in a state of extreme collapse, so much so that I thought death was imminent. However, an enema of hot coffee, a hypodermic of strychnine and digitaline, and hot bottles rapidly produced improvement. At 2.30 she was conscious, but quite deaf; she complained of intense headache, and said she could see nothing. Subsequently she vomited copiously, and afterwards improved steadily.

Thirty-six hours after taking the drug she was walking about, doing her work, and apparently quite well.

The drug appeared to act as a depressant to the respiratory and cardiac systems. I am in doubt as to the amount which may be taken with impunity, but the rapid elimination of the drug is well illustrated by this case.

Stony Stratford. H. GOOCH, M.B.

results. The term "serous" has been used with hesitancy. All these cases had typical meningeal signs and symptoms, and on lumbar puncture a milky fluid was obtained under pressure, which in one case gave organisms on culture. These cases progressed favourably after evacuation of the extradural abscess present. Throughout this paper the aim has been to emphasize a disregard for meningeal symptoms. Whilst accepting the clinical entity *meningitis* as a terminal stage in extradural abscess, intercranial abscess, and lateral sinus thrombosis, we wish to point out that purulent meningitis alone is a very rare condition in the *post-mortem* room. Abscesses before rupture can give a clinical picture of meningitis, including a milky cerebro-spinal fluid, and the serous effusion following the irritation of an extradural abscess is accompanied by a similar symptomatology. Comparable conditions can be found in the peritoneal cavity serous effusion with local abscess and a tendency to limitation of extension in the early stages of disease. Nowadays no case of peritonitis is abandoned; similarly the condition which is known clinically as meningitis is an indication for immediate intervention.

Septicaemia and Pyaemia without Sinus Thrombosis.

These cases described by some authors have been extremely rare in our series. In two cases of septicaemia following operation the subsequent autopsy was negative. In two other cases thrombosis of the jugular bulb was present without changes in the sigmoid sinus, and in one of these cases exploration of the sinus was negative, bleeding being obtained from the lower end. Pyaemia was present in both cases.

Seven cases in the complicated series were probably cases of sinus thrombosis cured by Nature after removal of the focus of bone infection by operation. Each recovered and the sinus was not explored, so that only the clinical course justified a diagnosis of probable sinus thrombosis on account of similarity to those cases of sinus thrombosis which were treated as described elsewhere. Two developed empyemata, one a pulmonary infarction and serous effusion, two had multiple pyaemic abscesses, and two had repeated rigors with a positive blood culture. The lesson learnt has been the necessity for a close watch on the pulmonary condition in cases of sinus thrombosis with pyaemia. Empyemata have been discovered for the first time in the *post-mortem* room, and the influence which they must have had in bringing about a fatal result can only be conjectured.

UNCOMPLICATED CASES.

The mortality rate in the uncomplicated cases is 2.25 per cent. Nine out of a total of fifteen deaths were cases of tuberculous mastoiditis. Excluding these the mortality becomes 0.9 per cent., which is a figure representing the operative risk. One nephritic case died of pulmonary oedema, two rachitic children of acidosis, and one patient of bronchopneumonia. Autopsies were not available in the other two cases. A review of the cases as a whole presents no feature of interest. Under this section two other aspects of the subject are included:

1. *The Prognosis as to Hearing after the Radical Mastoid Operation.*—It has been noticed that the power of hearing is better in those cases with a slight discharge following the radical mastoid operation than in those cases where the cavity is absolutely dry and epithelialized. To obtain a perfect epithelial covering in the cavity it is necessary to curette the inner wall and to cause the formation of a barrier or stricture by scar tissue at the auditory end of the Eustachian tube—with adverse effects on the auditory structures on the inner wall of the middle ear. Most patients with chronic otitis of a severity to warrant the radical operation would be content to sacrifice any usefulness of the ear for hearing for cessation of the discharge. In cases, however, where the function is of importance, the better hearing power of a moist cavity must be borne in mind. These remarks hardly apply to the emergency operation, where the total eradication of disease is indicated.

2. *Streptococcus mucosus Infections.*—A peculiar type of otitic infection was described by Viennese authorities in which the *Streptococcus* or *Pneumococcus mucosus* was found. Several of these cases have occurred, more frequently during the spring epidemic of otitis media. A history of earache is obtained, with or without slight discharge and consequent relief of pain. At a period varying from ten days to six weeks after the onset the patient complains of severe pain behind the ear. On examination a normal or scarred tympanic membrane is seen, with signs of acute mastoiditis, which are frequently atypical. A swelling far back over the position of the mastoid foramen indicates the probability of perisinus suppuration in many cases. Operation reveals extensive bone necrosis and sometimes caries, whilst the bone fragments are soaked in thin pus with a highly characteristic odour. Complications are common. The organism is usually to be obtained in pure culture on account of the absence of a contamination from the auditory canal. Special examination must be made, as it is likely to be mistaken for a common form of streptococcus. It is a member of the group which links together the streptococci and pneumococci, possesses a capsule, is bile-soluble, but occurs in chains. Several varieties have already been classified.

Table IV shows a mortality rate of 14.1 per cent. among all cases of mastoiditis requiring operation, due largely to the high incidence of complications and to the high death rate of such cases.

TABLE IV.—*Death Rate and Gross Complication Incidence in Mastoiditis.*

Disease.	Uncomplicated.			Complicated.			Total Cases.	Total Deaths.		Percentage Complicated to Total Cases.
	Cases.	Deaths.		Cases	Deaths.					
Acute.		No.	%		No.	%		No.	%	
Simple mastoid	400	5	1.25	49	36	71.0	451	41	9.1	10.9
Heath's operation	2									
	402									
Chronic.										
Radical operation	262	10	3.8	57	65	66.3	360	75	20.8	27.2
No operation ...				11						
				98						
Total ...	664	15	2.25	147	101	69.0	811	116	14.1	18.1

CONCLUSION.

In this paper an attempt has been made to draw conclusions from a series of records frequently far from complete. Every attempt has been made to avoid reference to authorities and to personal views, recording only the lessons and results afforded by the available material. We feel that the subject-matter will be of use to others because of the better results obtained in the treatment of cases not included here—treatment based on conclusions arrived at whilst this summary has been in progress. Emphasis is to be laid on the following points:

1. The importance of regarding meningeal symptoms as an indication for operative intervention rather than a contraindication.

2. The necessity for brain exploration in doubtful cases.

3. Examination for multiple complications in any complicated case.

4. Early sinus exploration in cases of acute mastoiditis where, especially in children, thrombosis tends to be a "quiet" lesion.

5. The need for education to an appreciation of the danger signal in chronic suppurative otitis media equal to that obtaining at the present time in intra-abdominal disease.

We wish to thank Mr. E. W. Bain for his permission to include case reports and results in the statistics, the staff of the pathological department for their help in autopsies and the like, and the past resident staff of the Leeds General Infirmary, without whose notes this paper would have been impossible.

insulin administered to the diabetic. He attaches great importance to albuminoids in the production of ketosis and regards them as being more dangerous than fats in this respect.

The third section is devoted to a consideration of the therapeutic use of insulin. Dr. Aubertin, in agreement with his colleagues Mauriac and Piéchaud, has formed the opinion, from their own experience, that the best plan to follow is to adopt a "standard diet" upon which to place the diabetic without preliminary starvation. This diet has a calorie value of 2,800, and contains 240 grams of fat, 80 grams of carbohydrate, and 80 grams of protein. By way of example, charts are given showing patients whose weights were 65, 71, 58, and 54 kilograms respectively at the beginning of treatment. This "standard diet" of 2,800 calories is considerably higher than the 1,679 calorie diet suggested by Woodyatt, which has proved satisfactory in the opinion of so many observers. It will also be seen that the fat-glucose ratio is slightly above Woodyatt's. On the whole, in spite of minor variations, Aubertin adopts the Toronto plan of adequate diet with adequate insulin, and has little to say in favour of preliminary or occasional starvation.

The book is deserving of high praise for the immense amount of literature that has been consulted and condensed into a thoroughly useful summary, while the author and his colleagues have added by their own work fresh and useful facts that materially advance our knowledge of diabetes and its treatment with insulin.

It is a pity that in correcting the proofs so many proper names should have been allowed to remain misspelt.

HEREDITY.

PROFESSOR ARTHUR THOMSON'S book on *Heredity* has now reached a fifth edition,[2] and is too well known to need any detailed description. Briefly it may be said to give the reader the facts—microscopical, statistical, and experimental—on which our knowledge of heredity rests; it also discusses, in a temperate and fair-minded spirit, the numerous debatable questions inherent in the subject. The tendency to draw far-reaching conclusions in a subject of great importance and naturally engrossing is strong in some natures, and to such the author administers the sobering reflection that it is too soon to settle down to fixed conclusions on more than a few points. The present edition has been revised throughout, and some of the more recent investigations have been incorporated, such as those of Cuénot on Mendelian phenomena in mice, of Haecker on sex differentiation, of Kammerer on the inheritance of acquired characters, and Cunningham's theory of the influence of specific hormones in heredity. An attempt has been made to keep practical problems in view, but owing to the imperfect state of our knowledge it has not been found advisable to risk many concrete suggestions.

The problem of the transmission of acquired characters does not seem to be definitely settled; the practical man, whether physician or breeder, is still in many cases a firm believer in their transmissibility, and one of the keenest physicians has said that a few months in practice was enough to dispel all doubt as to the inheritance of such characters. Professor Thomson, after a thorough overhauling of the evidence for and against, comes to the conclusion that there is little warrant for being other than extremely sceptical about the inheritance of these characters.

With regard to the possibility of the transmission of innate characters and predispositions there is no doubt; as Professor Thomson puts it, it is idle to deny that some children are "born bad" or "born good," and he quotes the dictum of Heine that "a man should be very careful in the selection of his parents." But there is no reason to believe that these inherited predispositions necessarily persist, the probability being that the subtle process of germinal selection is sometimes able to eradicate a morbid tendency. The liability to "rust" in wheat plants is suggestive in this connexion. Crosses between plants that are immune and others that are susceptible yield hybrids that are all susceptible; but if the hybrids be inbred, the progeny are partly susceptible and partly immune, and the latter breed true—that is to say, the morbid predisposition has been eradicated from them. It is better, however, not to trust entirely to nature in this matter, and the following rules are put forward by the author as deserving of adoption: That the best general constitutions should be mated; that a markedly good constitution should not be paired with a markedly bad one; and that a person exhibiting a bias towards a specific disease should not marry another with the same bias. These rules seem so self-evident that they may almost be regarded as platitudes; they are ignored in innumerable cases, however.

There is less indifference as regards the effects of consanguinity; these are generally understood, but they have latterly been defined with somewhat greater precision. A similar hereditary taint in the lineage of mated cousins is extremely likely to lead to unhealthy offspring, even if the cousins are somatically healthy; and if somatically healthy cousins have what is called a simplex dose of the taint the probability is that one-quarter of the children will be unhealthy. On the other hand, there is no reason why two healthy cousins with a good family history on both sides should not marry. Careful mating, however, can do more than obviate the recrudescence of disease. Karl Pearson's observations lead him to believe that exceptional families can by careful mating obtain an exceptional stock in a few generations; on the other hand, the degenerate inhabitants of the slums of our big cities can as readily produce a degenerate stock, which no change of environment will elevate and nothing but an admixture with better blood will improve.

With regard to the desirability of eugenic measures carried beyond the rules above mentioned, the important fact should be kept in view that our ignorance is, as Professor Thomson states, immense. Some of the recommendations which have been made are merely grotesque, and it is clear that the solution of the difficult problems involved needs to be in the hands of level-headed men, to the exclusion of enthusiasts and hysterics.

THE SANOCRYSIN TREATMENT OF TUBERCULOSIS.

IN a volume written in French[3] Dr. C. H. WÜRTZEN recounts his clinical experiences of sanocrysin in the treatment of pulmonary tuberculosis. He covers much the same ground as his predecessors, spending time on the reactions and the complications that follow excessive dosage. The volume contains two chapters—on variations in antibody response and on morbid anatomy—written by Dr. Hansen and Dr. Fogh respectively. Then follows the history of each patient and a review of the results obtained. Dr. Würtzen divides his cases into three groups. Group I comprises 16 patients that were treated mostly in 1924 and have been followed up after discharge; half of these were mild, half were serious cases; after leaving the sanatorium 7 continued to improve and 9 became worse; one of the latter died of bronchopneumonia. Group II comprises 39 patients treated by 1-gram doses of sanocrysin; the immediate results were as follows: 17, of which 14 were serious cases, died; of the 22 remaining patients 10 showed improvement as judged by clinical and roentgenological examination, 8 showed clinical but not roentgenological improvement, and 4 were frankly worse. Group III comprises 61 patients treated by 0.5-gram doses; of these 8 died, 25 improved clinically and roentgenologically, 24 clinically but not roentgenologically, 2 were unchanged, and 2 were worse. All of the patients except 8 belonged to the Turban 2 or 3 category; of the 8 in Turban 1 only 2 improved both clinically and roentgenologically.

These figures seem to us to be meaningless. That sanocrysin is a dangerous drug there is no question; the fact that 7 out of the 17 deaths in Group II are attributed to the result of treatment suffices to prove this, without

[2] *Heredity.* By J. Arthur Thomson, M.A., LL.D. Fifth edition, thoroughly revised. London: J. Murray. 1926. (Demy 8vo, pp. xiv + 542; 47 figures. 21s. net.)

[3] *Recherches sur les Effets de la Sanochrysine.* Par Dr. C. H. Würtzen. Copenhagen: Levin and Munksgaard. 1926. (Sup. roy. 8vo, pp. 224; 125 figures.)

POISONING BY TOBACCO APPLIED TO THE SKIN.

THE cases of tobacco poisoning recently recorded in the JOURNAL remind me of a reference to the condition which is of some historical interest.

Foville (*Influence des Vêtements sur nos Organes*, Paris, 1834) describes the French military headgear of his time as specially tight, heavy, and unventilated. He adds that soldiers were accustomed to carry their tobacco inside their caps, and that symptoms of narcotism often resulted. One can understand that a mass of presumably strong tobacco, confined between an unventilated shako and a moist, overheated scalp, would have much the same effect as the *toscani* in the axilla described by Dr. Deacon (July 10th, p. 61).

JOHN RITCHIE,
M.O.H. Dumfriesshire.

Reports of Societies.

CONCEALED ACCIDENTAL HAEMORRHAGE.

AT a meeting of the Edinburgh Obstetrical Society held on June 9th, with the President, Dr. R. W. JOHNSTONE, in the chair, papers were read by Dr. J. HEWITT and Dr. SAMUEL J. CAMERON (Glasgow) on concealed accidental haemorrhage; Dr. Hewitt described the condition of the uterine wall in these cases and Dr. Cameron discussed the rational treatment, based on Dr. Hewitt's findings.

Dr. HEWITT said that the question of the clinical condition of the uterine wall could best be approached by a brief consideration of the common explanation of the retention of blood within the uterus. He agreed with Gordon Ley that such suggested causes as the non-dilatation of the cervix, adhesion of the membranes around the os, pressure on the lower uterine segment by the presenting part, or rupture of the haemorrhage into the amniotic sac, were inadequate and erroneous. In addition to the objections raised by Ley, Dr. Hewitt quoted Barnes with reference to the supposed adhesion of the membranes, and added the personal observation that in many cases the blood clot was entirely retroplacental. Even when bleeding extended beyond the placental margin, the blood often travelled upwards towards the fundus, and thus never even reached the lower segment. In view of the inadequacy of these theories it was not surprising that the view arose that the blood was retained, because the uterus was unable to expel it, the uterine muscle being described as "inert," "atonic," or "paralytic." Dr. Hewitt's view was that the uterus was temporarily unable to undergo rhythmic contractions, because it was already in a state of sustained and painful tetanic contractions. The basis for this belief emerged from consideration of the question why the foetal parts could not be palpated in cases of concealed accidental haemorrhage. That rigidity of the parietes was not responsible was shown by the fact that palpation still yielded negative results when the patient was deeply anaesthetized, and even after the abdomen had been opened in the course of a Caesarean section on these cases. Intervention of placenta and blood clot occurred in some cases, but in others where palpation had been negative the placenta would often be found on the posterior wall during manual exploration of the uterus in the course of Caesarean section or at a necropsy. He drew attention to the hard, tender, well defined uterus as being incompatible with the description "atonic," and added that in concealed haemorrhage the membranes were tense—a circumstance which could not occur in an inert organ. He referred to the view of FitzGibbon that the apparent increase in size of the uterus resulted from forward projection of the organ, due to its tonic state, but he admitted that in most cases the amount of intrauterine haemorrhage also contributed to the increased size. Sir James Mackenzie's dictum, that a hollow muscular organ might be distended indefinitely without producing pain until a contraction was started, was quoted in support of the speaker's view that the uterus was in a state of tonic contraction.

Dr. CAMERON said it was most important to realize that in concealed accidental haemorrhage the patient's life was endangered more by shock than by haemorrhage. The amount of blood lost in a fatal case was often much less than that lost by patients with placenta praevia who survived. In respect to the relative importance of shock and haemorrhage there was a close similarity between concealed accidental haemorrhage and acute inversion of the uterus. If bleeding was considered to be the more important factor, Caesarean section should be performed on every occasion, but with this Dr. Cameron did not agree: perhaps the most generally practised method of treatment consisted in packing the vagina. It was claimed that an efficient vaginal plug arrested the flow of blood through the uterine arteries, but he did not believe that it was possible by any method short of actual ligature or clamp to arrest or perceptibly diminish the flow of blood through these vessels. Moreover, a liberal blood supply still reached the uterus by the ovarian arteries, which during pregnancy were not much smaller than the uterine, and which, with the latter, formed an unconstricted "utero-ovarian loop" on the margins of the uterus, between the aorta above and the internal iliac artery below. Dr. Cameron demonstrated this point by an *x*-ray photograph of an injected specimen. In treating cases of concealed accidental haemorrhage the patient should be guarded from shock by administering large and repeated doses of morphine during the acute stage. When this stage had passed, but not before, labour pains were stimulated by pituitary extract. If the patient did not improve after morphine had been given he performed Caesarean section, because in his experience one of two events had occurred—a recurrence of bleeding, or rupture of the uterus. So far he had never been compelled to remove the uterus on account of atony. He did not perform vaginal Caesarean section because: (1) the shock was not less than that associated with abdominal Caesarean section; (2) it was impossible to inspect the uterus for rupture; (3) haemorrhage was less easily controlled; and (4) towards the end of pregnancy extraction of the child might prove difficult.

Reviews.

A FRENCH TREATISE ON INSULIN.

IN his volume, *L'Insuline*,[1] Dr. ÉMILE AUBERTIN of Bordeaux presents to French readers a comprehensive survey of insulin in all its bearings. He has not only collected information from a vast number of published sources, but he has been able to add to this the results of his own and Professor MAURIAC's experimental researches and clinical experience. Thus his book ranks as a monograph of first importance in the literature of insulin. The medical profession in France seems to have been handicapped at the outset by the high cost of insulin, the production of which in that country is a State monopoly. For reasons which Dr. Aubertin's book discloses there is no widespread acquaintance in France with the use of insulin in the treatment of diabetes. His work should prove of the greatest value in instructing the medical profession in the administration of insulin, and possibly in creating a public demand in France that the supply of insulin shall be made cheaper and more generally available there.

The book is divided into three sections. The first section deals with the history of the discovery of insulin, its preparation and physico-chemical properties. In the second section the various effects of the administration of insulin are admirably described. This section includes an account of much original work carried out by the author. His observations on the utilization of blood sugar by the tissues are of great interest. He states, for instance, that the sugar diminishes during the passage of blood through the organs of a diabetic just as in those of a normal subject, and that insulin injection does not increase the sugar loss in the diabetic. Yet he admits, of course, that the utilization of the sugar which the blood loses is profoundly influenced in some way as yet unexplained by

[1] *L'Insuline*. Par Dr. Émile Aubertin. Préface du Professeur agrégé P. Mauriac. Paris: Gaston Doin et Cie. 1926. (Roy. 8vo, pp. 480; 23 figures. 45 fr. net.)

DISEASES OF NOSE, EAR, AND THROAT.

THE second volume of the monumental system of oto-rhino-laryngology, edited by DENKER and KAHLER,[7] forms Part II of the section on diseases of the nose and throat. We published a review of the first volume last October, and it is announced that this section will be comprised in the first five volumes.

Continuing the work on this scale, the general pathology, symptomatology, and treatment of these regions are reviewed in detail, and the reader who desires information on essentials and the selection of the best methods will feel that he is sacrificed to a desire to omit nothing. Thence there is a sudden jump to a description of tracheotomy by Dr. Harmer of Vienna. It seems strange, though perhaps illuminating, that a subject of such vital importance should be illustrated merely by a few blocks depicting tracheotomy tubes, among which Durham's is not seen, whilst a little later in the book a chapter devoted to congenital deformities of the nose is profusely interspaced with an array of frightful monsters, possibly of intense academic interest. This leads on to the subject of hare-lip and cleft palate, and its inclusion in such a work is significant. It is to be noted that Langenbeck's operation for the latter is figured and described, though the operations of Lane and of Brophy are mentioned. It is not easy to understand the plan on which the work has been compiled, for although congenital deformities and tumours of the larynx, trachea, and bronchi follow, there is another sudden change after this to a section on the surgery of the nasal septum, written by the late Professor Passow. This chapter is particularly thorough, and contains an interesting photograph showing the relative position of the surgeon and the patient during an intranasal operation; the surgeon sits on a stool which forms a bridge over the body of the semi-recumbent patient. Dr. Lautenschläger, who contributes a long article on atrophic rhinitis, appears to hold that the outlook is bad and that the reason cases are only seen in early life is that the patients succumb to tuberculosis, pneumonia, and chronic bronchitis, unless they are cured by operation, which he considers the only efficient remedy; he gives no evidence for this gloomy opinion. On the other hand, he believes that the disease sometimes disappears spontaneously in older patients; this certainly does occur, but he is very vague regarding the ultimate fate of these patients. The surgical treatment is described at great length; this indicates a lack of perspective in discussing a disease which readily responds to simple local applications of glycerin containing glucose or honey, a method which is not even mentioned in the ten pages devoted to treatment. The remainder of the volume is almost entirely devoted to the consideration of the inflammatory diseases of the accessory sinuses. The subject is for the most part dealt with on conventional lines, but the chapter on the intracranial complications by Professor Burger of Amsterdam merits attention, as it is clearly the result of much patient research and contains a store of information which can be found nowhere else.

The sixth volume forms Part I of the section on diseases of the ear. Two more volumes will complete this section; the whole system is to consist of ten volumes. This part is arranged systematically, and in this respect is superior to those on the nose and throat; it begins with an account of the evolution and comparative anatomy of the ear. Professor Alexander describes variations and anthropology, and the very complete account of the anatomy of the ear is by the veteran Professor Otto Körner of Rostock. The histological study of the ear, including microscopical technique, and the nervous connexions, conclude the anatomical portion. The next portion is devoted to physiology, and after that come general pathology and therapeutics. General pathology (including injuries) is very full, whilst the article on bacteriology is relatively short but comprehensive. The section on the examination of the ear, by Professor Brühl, is excellent. It is followed by a description of a method of taking photographs of the tympanic membrane; the results do not appear to be brilliant. The important subject of testing the vestibular apparatus is discussed by Professor Ruttin. Towards the end there is an account of lumbar puncture, including the pathological changes which occur in the cerebro-spinal fluid in association with diseases of the ear; it is very thorough and systematic, and is beautifully illustrated. The numerous pictures all through maintain the high standard of the previous volumes; as already noted, this volume compares favourably in the arrangement of the subjects, and the same may be said of the literary material itself. It contains, however, 1,274 pages, and is therefore even more unwieldy as a handbook.

[7] *Handbuch der Hals-Nasen-Ohren-Heilkunde.* Herausgegeben von A. Denker und O. Kahler. Zweiter Band: Die Krankheiten der Luftwege und der Mundhöhle. Sechster Band: Die Krankheiten der Gehörorgans. Erster Teil. Berlin: Julius Springer; München: J. F. Bergmann. 1926. (Sup. roy. 8vo. Bd. II: pp. xiv + 1058; 394 figures; paper cover, R.M.84.00; bound, R.M.89.40. Bd. VI: pp. xv + 1274; 456 figures; paper cover, R.M.96.)

NOTES ON BOOKS

DR. FIELDING H. GARRISON has a scholarly style, and rarely has he written more charmingly than in *The Principles of Anatomic Illustration before Vesalius: an Inquiry into the Rationale of Artistic Anatomy*,[8] with the object of supporting the late Dr. Robert Fletcher's view that the real content of artistic anatomy is not descriptive anatomy but ethnic morphology, physiology, and pathology. The principles of pre-Vesalian illustrations of anatomy were, in the first place, slavish obedience to tradition, and therefore faulty rudimentary delineation in manuscript hand drawings and printed diagrams till the time of Leonardo da Vinci; and secondly, admirable first-hand observation of the external configuration of the body, which was more physiological and pathological than descriptive. Conditions such as achondroplasia and endocrine obesity were well portrayed in innumerable Egyptian, Maltese, Pompeian, and Peruvian figures centuries before they received a name. Cubist art is described in perhaps a rather complimentary manner as an attempt to hark back to the childhood of the race and to visualize the feeling of prehistoric and primitive man about the body. The first artist to take to the scientific study of anatomy appears to have been Donatello (1386-1466), but Leonardo da Vinci really founded artistic and physiological anatomy, and possibly his drawings may have suggested to Vesalius the illustrations in his *Fabrica*.

A series of lectures on cardiac diagnosis given to a post-graduate class at Bad Nauheim last year have been printed in a volume.[9] To it Dr. Diethlen contributes an account of the method of estimating the size of the heart by means of x rays. A large amount of work has been done on this subject, but unfortunately it is somewhat contradictory, and the physiological limits of variation in heart size are not yet ascertained with certainty. German and Austrian workers are fairly unanimous in describing a work hypertrophy of the heart, which is seen most clearly in those habituated to long-distance athletic events. Many English and American workers are, however, doubtful of the existence of such a hypertrophy. Dr. Diethlen presents the German view, which appears to be supported by strong evidence based on measurements of the heart shadows of thousands of athletes and non-athletes. He discusses the range of this normal work hypertrophy of the heart, and also gives figures for the normal relation of body weight and heart shadow. Dr. Nickau describes the methods of capillary microscopy, and gives a summary of some of the recent investigations in this field of research, which has attracted so much attention recently. Other writers describe methods for the photographic registration of the venous pulse, the significance of the electro-cardiographic records, and the significance of the shape of the heart shadow in cardiac disease. The articles as a whole give a concise account of some interesting new methods in cardiac diagnosis. Unfortunately in some cases the limits of normal variation do not appear to be clearly defined, and until these are known fairly accurately it is difficult to use any measurement for the diagnosis of disease.

A Handbook to the Drink Problem,[10] by WILL REASON, deals comprehensively with the various questions and conflicting statements in a complex controversy. A considerable amount of information is gathered together in the form of questions and answers. A bibliography is provided for further study, and a short index enables reference to be made quickly to the different subjects treated. Lord ASTOR contributes a characteristic preface.

[8] *The Principles of Anatomic Illustration before Vesalius: an Inquiry into the Rationale of Artistic Anatomy.* By Fielding H. Garrison, A.B., M.D. New York: Paul B. Hoeber, Inc. (12mo cloth, pp. 58; 26 full-page illustrations. 2.50 dollars.)

[9] *Moderne Methoden der Kreislaufsdiagnostik.* Ärztlicher Fortbildungskurs in Bad Nauheim Pfingsten 1925. Leipzig: G. Thieme. 1925. (Roy. 8vo, pp. 79; 31 figures. R.M.3.)

[10] *A Handbook to the Drink Problem.* By Will Reason, M.A. With a Preface by the Viscount Astor. London: Student Christian Movement. 1925. (Cr. 8vo, pp. 110. 1s. 6d. net.)

mentioning the albuminuria, the dyspepsia, the stomatitis, the anaemia, the haemorrhages, skin rashes, glycosuria, and other complications observed in different patients from time to time. But whether it is of any value it is quite impossible to say—the cases are too few. One of the disadvantages of the clinician is that he sees his patients too closely. He finds it difficult to get away from them and view them with a true sense of relativity; so that when he has recounted the recovery of a few dozen patients he proceeds straightway to draw entirely unfounded conclusions. He is so imbued with the old adage about treating the patient and not the disease that he forgets that it is sometimes far more important to treat the disease rather than the patient. An experimental scientist wishing to ascertain, let us say, the toxicity of a certain preparation, chooses fifty or a hundred animals of the same weight and age, brought up under the same conditions, fed and housed alike, and looked after with the utmost regularity; the dose administered to each is standardized precisely, and a *post-mortem* examination is conducted on each animal that dies. With these precautions he obtains the percentage mortality due to a certain dose. On repeating his experiment he may obtain a figure differing by 20 or 30 per cent. or even more from his first titration; and not till he has worked out his standard deviation and obtained the degree of variation that is likely to be observed in similar batches injected with the same dose does he feel justified in judging of the toxicity of his preparation. The clinician manifestly cannot do this. His patients are of different ages, are brought up under different conditions, have received varying doses of bacilli at varying times, show lesions differing enormously, not only in their extent, but in their nature, and are dissimilar in a number of other respects. These are treated with varying doses of a drug; some appear to react favourably, others unfavourably. From a consideration of a comparatively few such cases he hopes to obtain a definite answer to his question. The problem he sets out to solve is scarcely clearer than when he started; at the best he is justified in forming no more than the most tentative opinion. It seems to us that the labour expended by clinicians at present is on this account largely wasted. If sanocrysin was capable of affording a rapid and complete cure of all tuberculous patients it might be possible to ascertain this from the treatment of two or three hundred cases; but when, as is abundantly shown, this is not so, the present method of investigation fails. To ascertain the value of the drug it is necessary to treat several hundreds or thousands of patients in the same way, to follow them up for two years at least, and to compare them with similar patients who have received sanatorium treatment alone.

The Treatment of Tuberculosis with Sanocrysin and Serum,[4] by Dr. KNUD SECHER, follows much the same lines as Dr. Würtzen's book. Both physicians are working at Copenhagen, and both disagree on a number of important points, such as the value of serum treatment, the dose of sanocrysin to be administered, and the type of patient to whom it should be given. Dr. Secher's figures are frankly worthless; he has selected the ones that he wishes to publish and has omitted a large number of others.

In our opinion neither of these books should have been written. No doubt the desire to publish one's work is strong, but in each case a brief paper in one of the recognized journals would have been sufficient. As it is, the reader is confronted with two volumes of considerable size, from which it is difficult to pick out the essential facts. The tables in Dr. Würtzen's book are too complicated, and, moreover, do not always agree with the text. Dr. Secher's work, which is bravely written in English, is marred by the use of such words as intoxation, bacill-free, tumorous, and a number of malapropisms and ambiguities of style which render it difficult to read. We trust that in future the devotees of sanocrysin will hesitate before rushing into print in an endeavour to prove what by their present methods is unprovable.

[4] *Treatment of Tuberculosis with Sanocrysin and Serum (Moellgaard)*. By Knud Secher, M.D. Copenhagen: Levin and Munksgaard; London: W. Heinemann (Medical Books) Ltd. 1926. (Sup. roy. 8vo. pp. 256; 65 figures. 21s. net.)

RADIOGRAMS OF THE VISCERA.

A Descriptive Atlas of Visceral Radiograms,[5] edited by A. P. BERTWISTLE and E. W. H. SHENTON, adds one more volume to what may be termed the "picture books" on radiology which have been so fashionable in recent years. In a short introduction the chief points of the various organs and regions of the body dealt with are indicated from the *x*-ray point of view. Following this are over three hundred well produced, and in the main typical, radiograms, which portray very well different *x*-ray facts to be elicited by the examination of the alimentary, the urinary, the respiratory, the nervous, and the vascular systems. Others deal with the teeth, with foreign bodies, the thyroid gland, the nose, and the female generative organs. Accompanying each illustration is a short explanatory note; in many a short clinical history of the case is provided, and in some cases also the operative findings.

A large number of experienced radiologists have supplied the bulk of the pictorial material. Prominent amongst these are Dr. Rowden, jun., and Dr. Jordan, whilst Professor Sicard, Dr. Spriggs, Mr. Morriston Davies, Professor Wilkie, Professor Fullerton, Mr. Kidd, Sir William Milligan, and others have contributed both radiograms and notes on cases. In addition to abnormal conditions the authors have incorporated a number of pictures of the normal; the latter, in a book written, as this is, more for the general practitioner than the specialist in radiography, add considerably to the book's value. We note also that, although a considerable number of highly interesting rare conditions are shown, the bulk of the illustrations depict the commoner pathological conditions met with in making *x*-ray examinations. The illustrations are, almost without exception, very good and well chosen, the explanatory notes concise and to the point. The paper is excellent. Throughout there is evidence of the care and forethought of the authors.

Where all is so good it is somewhat invidious to pick out for especial praise any one portion, but we consider that the chapters on the respiratory, the nervous, and the urinary systems are the best, and in the latter the illustrations of various kidney conditions, stones and otherwise, by Dr. Rowden, jun., are of great merit. It is one of those books the pages of which it is a pleasure to turn over, and the amount of useful information it contains is very large. To the general practitioner its value will be great, and the specialist in radiology will also find in it much useful information. Not the least interesting point is the price; it is extraordinary in these times that so well and perfectly illustrated a book can be put on the market for the moderate sum of one guinea.

MODERN METHODS OF FEEDING IN INFANCY AND CHILDHOOD.

THE short book by Drs. DONALD PATERSON and J. F. SMITH entitled *Modern Methods of Feeding in Infancy and Childhood*[6] appears as one of the Modern Medical Monograph series edited by Professor Maclean. It will certainly prove to be a popular book for students because it is concise and dogmatic and expresses opinions in an easily rememberable fashion. The three main subjects dealt with are normal breast-feeding, artificial feeding, and minor digestive ailments of children. The text is accompanied by twelve tables, in some of which there seems to be a good deal of unnecessary repetition. There is not much that is new in the book, as its title might suggest, and certainly nothing revolutionary. Compared with books written on the same subject a generation ago, this short book would differ not so much in its information as in its brevity and emphatic style.

[5] *A Descriptive Atlas of Visceral Radiograms*. By A. P. Bertwistle, M.B., Ch.B., F.R.C.S.Ed., and E. W. H. Shenton, M.R.C.S., L.R.C.P. London: H. Kimpton. 1926. (Cr. 4to, pp. xx + 250; 330 figures. 21s. net.)

[6] *Modern Methods of Feeding in Infancy and Childhood*. By Donald Paterson, B.A., M.B.Edin., M.R.C.P.Lond., and J. Forest Smith, M.R.C.P.Lond. Modern Medical Monographs. London: Constable and Co., Ltd. 1926. (Demy 8vo, pp. lx + 106. 7s. 6d. net.)

know I am no *Scholard*, therefore do not feel the beauty of Language when I do not see the use of it."

He speaks of his work:

"As to my studies, I am following my business as a student, pursuing my comparative anatomy; . . . and it appears to be Anny's enjoyment in seeing me pleasing myself. While all these concurring circumstances go on, I must continue to be one of the happyest of men living."

In connexion with the foregoing self-revelation should be read Joanna Baillie's manuscript notes on the Hunter family, and especially the account of John Hunter's early boyhood, dictated to her by his mother. In this is told the full story of how he mauled a masked "devil," who was one of the Long Calderwood labourers. Of these good people we catch a glimpse in an old letter in Miss Hunter Baillie's private collection of family documents, where a most typical Lowland peasant woman and her *obiter dicta* are described by Joanna Baillie. This old canny peasant must have known the boy John quite well, but is silent on the point. Joanna Baillie, the accomplished dramatist and poet, wrote delightful letters to Sir Walter Scott, which are apparently lost, and to members of her family, of which a number remain. A volume in the collection under discussion contains business letters as to the sale of her books and some unpublished pieces. But the vogue of this woman writer, whom Scott likened to Shakespeare, has too unaccountably passed away.

Among the documents of historic interest here collected mention should be made of the Petition to Parliament, of date 1796, for the purchase of the Hunterian Collection, which is now in the Museum of the Royal College of Surgeons, and the Declaration of Trust relating to the same in 1813. The signatories of both these parchments are Matthew Baillie and Sir Everard Home. Here also is the proposed original Charter of the Medico-Chirurgical Society and the diplomas, burgher tickets conferring freedom of cities, and so forth, of William Hunter. His diploma of membership of the Corporation of Surgeons is dated August 6th, 1747, Cheselden being among the signatories. Documents and letters relating to the purchase of the Hunterian Museum by the University of Glasgow are also numerous. The date of these is 1783, the year of William Hunter's death.

William Hunter, accomplished and a man of the world, was an industrious correspondent. Many of the letters to him are of historic interest, but are mostly contained in the first part of the Hunter-Baillie Collection. In this new collection we find the following:

"Le lundi, 9 fevrier.
[1782]

"C'est avec une veritable satisfaction, Monsieur, que j'ai l'honeur de vous addresser la lettre de M. Amelot qui vous apprendra votre élection à une des huit places d'associés etrangers de l'academie des sciences. Cette compagni desirait depuis long tems de reparer par la choix d'un grand anatomiste les pertes successives de Morgagni et de Haller, et il y a long tems que les veux etaient pour vous. Vous voiez, Monsieur, que la guerre qui divisa nos nations n'a nous a peine empêché de rendre justice à vos grands talens. Tous ceux qui come vous concourent aux progrès des sciences et au soulagement de l'humanité ne peuvent être jamais que nos amis. Daignez agreer mes félicitations sur l'honeur que j'ai de vous avoir pour confrere, et les assurances de mon respect, et de mon attachement.

LE MAR. DE CONDORCET,
Sec. perp. de l'academie des sciences.

"A Monsieur Hunter."

The famous Condorcet, *encyclopédiste*, friend of Voltaire, and one of the leading wits of the most brilliant society in Europe, is thus seen to have been an adumbrator of the *Entente Cordiale*. At the time he wrote France and England were still technically at war, for the Peace of Versailles was not signed till September, 1783. William Hunter, he implies, is to be the successor of Morgagni and Haller, but Chopart, in another letter, speaks of him as succeeding Linnaeus, who, however, had died in 1778. Louis XVI actually appointed him to succeed Tronchin. William Hunter died the month after receiving this European honour, and Condorcet was a victim of that French Revolution which he had so laboured to promote.

These last facts lend a certain pathos to Condorcet's cordial letter, written in minute and almost indecipherable script and spelt in the quaint careless manner of his century.

ST. BARTHOLOMEW'S HOSPITAL WAR MEMORIAL.

THE memorial erected in honour of the 113 students of St. Bartholomew's Hospital who fell in the great war was unveiled on the afternoon of July 8th by H.R.H. the Prince of Wales, President of the hospital. For the purpose of the memorial the archway under the Great Hall, which gives access to the Square from King Henry VIII Gateway and Smithfield, has been reconstructed and beautified. The four panels in this archway and the domed roof, hitherto faced with dingy plaster, have been stripped and recovered with Portland stone, and on the panels have been carved the names of those who fell. Above each of the four panels is part of an inscription. The two panels on one side of the archway bear the words:

THESE GAVE THEIR LIVES FOR KING AND COUNTRY

Those on the other side:

COUNTING NOT THE COST IN DEFENCE OF RIGHT.

The work has been carried out with simple grace from the design of Mr. Edmund Mathews, and forms a most dignified and fitting memorial on a site familiar to every St. Bartholomew's man. Those whose names appear on it served in the Navy, the Army, and the Air Force, the majority as medical officers, some as combatants, and one of them—John Leslie Green, Captain R.A.M.C.T.F., killed in action, July, 1916—won the Victoria Cross. It was appropriate, therefore, that last week's ceremony should be attended by Surgeon Vice-Admiral Sir Joseph Chambers, Medical Director-General of the Royal Navy; Air Vice-Marshal David Munro, Director of Medical Services, R.A.F.; and Major-General Sir Matthew Fell, the newly appointed Director-General Army Medical Service. The Lord Mayor with the Lady Mayoress and the Sheriffs of the City of London were also present, showing the bond which unites the City with the only general hospital within its boundaries.

His Royal Highness was received by Lord Stanmore, treasurer of the hospital, and Sir William Lawrence, Bt., and the other almoners. A guard of honour was furnished by the Honourable Artillery Company. After inspecting these, and a group of ex-service men drawn from the hospital porters, the Prince proceeded to the Square, where the relations and friends of the fallen, the staff, and subscribers to the Memorial Fund, were grouped under a large canopy. Behind them, under the plane trees around the fountain, were a large number of students, nurses, and patients.

A short service, beginning with "O God, our help in ages past," was conducted by the Rev. Dr. A. C. E. Jarvis, C.M.G., *M.C.*, Chaplain-General to the Forces. The lesson, from Wisdom iii, 1 to 10, was read by the Rev. J. L. Douglas, Hospitaller and Vicar of St. Bartholomew's the Less. Sir Anthony Bowlby, Bt., chairman of the War Memorial Committee, and consulting surgeon to the hospital, presented the Prince with a volume, bound in morocco, containing the names and records of the 113 students commemorated, and asked His Royal Highness to unveil the memorial. The Prince stepped forward and drew apart the veil of Union Jacks over the entrance to the archway, saying: "To the glory of God and in honoured memory of the students of St. Bartholomew's Hospital who gave their lives in the great war, I unveil this memorial." A dedication prayer was recited by the Chaplain-General, buglers of the Grenadier Guards sounded the "Last Post" and "Réveillé," and the National Anthem was sung. At the foot of each stone panel had been placed a wreath of laurels—one given by the governors, another by the students, another by the council and staff of the Medical College, and the fourth by the League of St. Bartholomew's Nurses.

After the ceremony the Prince made a tour of the Square and spoke to some of the patients who had been brought out in their beds, and on leaving was warmly cheered by the students, nurses, and patients.

PREPARATIONS AND APPLIANCES.

Modified Schimmelbusch Anaesthetic Mask.

MR. R. J. HILLIER, anaesthetist to the Jessop Hospital for Women, Sheffield, has designed a modified form of Schimmelbusch's mask to obviate difficulties which arise from the hinged fixing frame of the original pattern becoming too loose to hold the gauze or else allowing insufficient space to clip the necessary number of layers of gauze. To obviate these troubles Mr. Hillier has made the fixing frame a detachable wire oval ending in two spikes. These spikes perforate the gauze, and are then passed under a metal bridge on the body of the face-piece. The other end of the wire oval is fixed to the body of the mask by a spiral spring ring. In this way the gauze is firmly fixed in the mask and cannot be detached from its proper position. Moreover, even the largest mask is made of such a size that it will take any ordinary width of gauze without the possibility of any part of the mask being insufficiently covered. The mechanism for holding the gauze is very simple, and there is nothing that should go wrong in use. The mask seems to be simple, cleanly, and effective. It is made by the Medical Supply Association, 12, Holly Street, Sheffield.

Nova et Vetera.

THE HUNTER-BAILLIE COLLECTION.

BY

VICTOR G. PLARR, M.A.,

LIBRARIAN OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AMONG the treasures of the Library of the Royal College of Surgeons of England not the least is the collection of autographs and other documents presented to the institution by the descendants of Matthew Baillie. The collection is in two parts, the first, comprising five volumes, having been presented during the nineteenth century by the late Mr. William Hunter Baillie. With this historic collection, largely incorporated in Lockhart's *Life of Sir Walter Scott*, Douglas's *Familiar Letters* of the same, and Aitken's *Life and Works of Dr. John Arbuthnot*, as well as in several articles in the literary periodicals,* I am not now concerned. It is the second collection of Hunter-Baillie Papers that claims our attention. This also consists of five volumes, and is of a more personal Hunterian character than its famous predecessors, wherein Pope, Swift, Arbuthnot, Smollett, and Scott occupy much space. The new collection has been beautifully arranged by the donor, Miss Hunter Baillie, the last representative—in some sort at least—of John and William Hunter.

Volume I, which is locked in token of the value of its contents, contains Royal letters and the manuscript poems of Mrs. Anne Hunter, wife of John Hunter.

The so-called Royal letters are, with two exceptions, written by Princess Mary, Duchess of Edinburgh and Gloucester, fourth daughter of King George III. They number some twenty-eight and are addressed to "My dear Baillie" (Dr. Matthew Baillie) and signed simply "Your friend Mary." In every instance they refer to the last illness of Princess Amelia, youngest child of George III, who died of erysipelas in 1810, having been more or less of an invalid since the year 1798. Princess Mary was devoted to her delicate young sister and nursed her to the end. Though often hard to decipher and erratically spelt, the letters are so many careful bulletins of the sufferer's daily progress from July, 1810, to her death at Augusta Lodge, Windsor, on November 2nd of the same year. On July 27th Princess Mary writes: "She adheres strickly [*sic*] to your prescription"; but in August she was already very ill. When dying Princess Amelia presented to the King a ring, which she had caused to be made. It contained a lock of her hair under crystal, and as she pressed it on his finger she said simply, "Remember me." The aged George III, half blind at the time and enjoying only rare intervals of sanity, was plunged into such poignant grief that he passed into the last sad condition of madness.

Another Royal letter in this collection is in the handwriting of the unhappy Queen Caroline, then Princess of Wales, and refers to her own health and that of the Duchess of Brunswick. "The greatest difficulty . . . consists in persuading the Duchess to listen to an able Esculapius," she writes in her clear Italian script to Matthew Baillie.

An account of the tragic accouchement of Princess Charlotte, dated November, 1817, accompanies these letters, It is unsigned, but appears to be by Matthew Baillie himself.

The poems of Anne Hunter, *née* Home (1742-1821), who married John Hunter in July, 1771, are interesting as containing the original manuscript of her song "My Mother bids me bind my hair," which was set to music by her friend, the famous composer Franz Josef Haydn. It enjoyed a vast vogue early in the nineteenth century, as appears from Mrs. Susan Sibbald's *Memoirs*. Here also is the original libretto of Haydn's oratorio *The Creation*, in which Anne Hunter displays all her talent for neat and rather trite versification in the late eighteenth century manner. "Of his oratorios," says Sir William Hadow, "the *Creation* alone survives," and his fame rests on his quartets and symphonies. The famous composer set many other pieces of Anne Hunter's to music, but the manuscripts do not indicate this. One may suppose that John Hunter bore with the poetic tendencies of his amiable wife, and that he thus "acquired merit," as did Mr. Salteena in the *Young Visiters* by his marriage. That Anne abundantly appreciated John Hunter is proved by her epitaph upon him in Westminster Abbey, which is here in manuscript. It is, indeed, a noble tribute to a hero of science.

The four other volumes of Hunter-Baillie Papers now under consideration contain an *embarras de richesses*. Here is the original of John Hunter's letter addressed to his brother-in-law, James Baillie, on his being given the degree of Doctor of Divinity and the post of Professor of Divinity in the University of Glasgow. It has been printed by the late Mr. Stephen Paget in his *John Hunter* (Masters of Medicine Series), and bears witness with unaccustomed grace to the great surgeon's domestic felicity four years after marriage. The date is November 20th, 1775. The letter congratulates the divine on his preferment.

"Altho you modestly say it was upon your family's account that you recd. it, yet it is what you should not have refused upon your own. There is hardly any character so low, or so high, but what will receive dignity from Title."

Of his family he says:

"I can only yet say, that I am happy in a wife; but my children are too young to form any judgement of. They consist of a stout red-headed Boy call'd Jock [Captain John Banks Hunter, died at Toulouse in 1838], three years and some months old; and a weakly girl call'd Mary-Ann, near two [died in 1776]. We lost a fine boy call'd Jimmy who would have been now about twelve months and Anny is near her time of a fourth [Agnes Margaretta, afterwards Lady Campbell]."

The allusion to the boy's hair is interesting. Hunter's own hair, as appears from the careful miniatures in the superillustrated volumes of *Foote's Life of John Hunter* at present in the Wellcome Historical Medical Museum, was a ruddy auburn, and in the collection now being reviewed Miss Hunter Baillie has preserved in envelopes locks of the fine red gold hair of his infant sister and brother, Elizabeth and Andrew, who died respectively in 1711 and 1714. The baby boy's hair is of unfading brilliancy and beauty and compares singularly with the now fading hue of John Hunter's locks in Reynolds's portrait. One wonders what the little Hunters died of in two successive generations, and in an age of high infant mortality.

"I am not anxious about my children," the letter continues, "but in their doing well in this world. I would rather make them feel one moral virtue" (there is a touch of Rousseau here) "than read Librarys of all the dead and living languages. You

* See *Edinburgh Review*, October, 1912, and January, 1913: articles by Victor G. Plarr on Walter Scott's unpublished letters to Joanna Baillie.

of Commons, the DUKE OF NORTHUMBERLAND presided over a very large and distinguished company, which included the Marquess and Marchioness of Aberdeen, Sir John Gilmour (Secretary for Scotland), and Mrs. Neville Chamberlain. The oratorical feast was on the old-fashioned lines, with eight toasts and eighteen speeches. Dr. CHARLES PORTER proposed "The Health of the Navy, Army, and Air Force," and spoke of the way in which the sanitary gospel had been carried by these services throughout the world. The toast was acknowledged by Surgeon Commander J. L. PISTON and Colonel H. P. W. BARROW. "The Health of Parliament" was proposed by Sir JOSEPH COOK; and in response Viscount BURNHAM (little knowing that at that very moment an unruly demonstration was taking place in the House of Lords over the Mines Bill) referred to the Upper Chamber as unapproached among legislative assemblies for dignity and courtesy; the nearest thing to it, he said, was the International Labour Conference at Geneva, over which he had lately been presiding. Dr. F. E. FREMANTLE, M.P., responded for the House of Commons, and said that diverse as were the views and interests of constituents they showed a remarkable unanimity when it came to any matter of health. Sir JOHN GILMOUR congratulated the Institute on its jubilee, and Professor BOSTOCK HILL, in responding, paid a tribute to the loyal services, extending over forty-five years, of its secretary, Mr. White Wallis. The healths of the City of London, of the delegates from overseas, and of the Chairman were also toasted.

MEDICAL INSURANCE AGENCY.

THE annual meeting of the Committee of Management of the Medical Insurance Agency was held at the House of the British Medical Association, Tavistock Square, on Friday, July 9th, when Sir Humphry Rolleston, Bart., was in the chair, and the following members were present:

Dr. Weaver Adams, Sir Robert Bolam, Dr. Alfred Cox, Lieut.-Colonel R. H. Elliot, Dr. R. A. Gibbons, Mr. N. Bishop Harman, Dr. R. Langdon-Down, Dr. J. A. Macdonald, Sir Squire Sprigge, Mr. W. E. Warne, and Sir Dawson Williams.

EPSOM COLLEGE.

It was reported that in response to an invitation to nominate a representative for election to the council of Epsom College Dr. R. A. Gibbons had been appointed. It was also reported that the boys whose candidature for election as foundation scholars had been supported by the British Medical Association were all elected. A discussion ensued as to the by-laws of Epsom College limiting the number of votes of any subscriber or donor, and it was decided that the whole question of the future relations of the Medical Insurance Agency with Epsom College should be considered at the next meeting of the Committee.

CHAIRMAN'S REPORT.

The Chairman, after mentioning that the offices of the Agency had been transferred to the new British Medical Association House in Tavistock Square, continued as follows:

The development of the Medical Insurance Agency has been rapid, if not spectacular, and although it is reflected in the fact that in the past five years the premium income has been doubled, yet it is not only by figures that the growth and influence of the Agency can be measured. One of the best indications of the influence of the Agency is its success in obtaining prompt settlement of claims made on behalf of members. There are occasions, few and far between, when the weight of the Agency cannot in fairness be used, but in the overwhelming majority of cases it is sufficient for the Agency to state that it is satisfied as to the propriety of a claim in order that a completely satisfactory settlement may be effected.

The Medical Insurance Agency set itself a record by introducing over £100,000 of new life assurance business a year, and for five years lived up to that record, but the following table shows how the record was smashed in 1925. Life and endowment policies were issued through the M.I.A. as follows:

Between 1907 and 1920 to the extent of			...	£416,684
During 1921 to the extent of			...	£105,500
,, 1922	,,	,,	...	£113,468
,, 1923	,,	,,	...	£101,097
,, 1924	,,	,,	...	£113,351
,, 1925	,,	,,	...	£160,935

—the total since the inception of the Agency exceeding £1,011,000 (one million and eleven thousand pounds).

It must be realized that the income of the Agency from this source will not necessarily be proportionately greater each year, as a much higher rate of commission is earned on new proposals than on renewals, although the office work involved in looking after a life policy, once it has been granted, is, of course, as great in the second and subsequent years as in the first. More and more energy is needed to maintain the rate of progress as the total of the sums assured mounts higher and higher.

A greater number of motor car insurance proposals were received in 1925 than ever before, and there is an increase in the premium income from this source. Despite this, the commission earned shows a decrease. The explanation is that the doctors' special policy introduced through the M.I.A. and underwritten at Lloyd's is being taken up in increasing numbers. The insured pays a lower premium and the commission is calculated at a lower rate on this reduced premium. The Agency loses, but the insured gains.

Although there is a fall in revenue under the heading "Employers' Liability," there is a corresponding increase under the heading "Comprehensive Household Policies," under which domestic servants are also included in the policy.

Efforts have been made to direct the attention of members of the profession to the advantage of sickness and accident policies. It is hoped that this class of protection will become more popular with the profession.

EXPENDITURE.

It is gratifying to note that the rebates to doctors insuring through the Medical Insurance Agency stand practically at last year's figure, despite the great saving in motor car premiums which has been effected. Had the premiums not been reduced the rebates would have been considerably larger. In this connexion it is interesting to note that the rebates to medical men since the formation of the Agency exceed £22,300, the figures for the last few years being:

1919	...	£960	1923	...	£2,069
1920	...	£1,453	1925	...	£2,791
1921	...	£1,697	1924	...	£2,811
1922	...	£2,064			

Grants to medical charities were made during the year 1925 to the extent of two thousand guineas, making a total since 1910 of £14,395 5s., divided as follows:

	£	s.	d.
Royal Medical Benevolent Fund... ...	4,119	10	0
Royal Medical Benevolent Fund Guild ...	4,148	5	0
Epsom College	3,318	0	0
M.I.A. Educational Grants Fund (Girls). .	937	10	0
Sundry charities...	1,872	0	0

Since rebates exceeding £22,300 have been returned to members of the profession and charitable contributions totalling £14,395 have been made, it may safely be contended that the Medical Insurance Agency is fulfilling successfully two of the functions for which it was formed.

But it is in the unseen, unmeasured work of advice and assistance in the choice of the best policies to meet individual needs, in drawing attention to the absolute necessity to medical men of insurance policies, and in the fair and generous settlement of claims, that the greatest work of the Agency may be considered to be done.

The accounts for the year 1925 have been duly audited by Messrs. Price, Waterhouse and Co., of Frederick's Place, Old Jewry, E.C., whose certificate is annexed to the balance sheet.

The report was approved and the proceedings terminated.

ROYAL SANITARY INSTITUTE JUBILEE CONGRESS.

THE Royal Sanitary Institute Jubilee Congress, the earlier proceedings of which were reported in our last issue (p. 71), continued its work until July 9th, by which time some seventy papers had been read in the various sections and conferences. The addresses of the chairmen of the sections were in some cases very stimulating deliverances, notably that of Sir GEORGE NEWMAN in the Sanitary Science Section, which might be described as an epitome of his previous writing on preventive medicine, and that of Lord EUSTACE PERCY in the School Hygiene Section. Sir GEORGE BUCHANAN addressed the representatives of port sanitary authorities on the international arrangements affecting port sanitary work. The Section of Hygiene in Industry met at the Guildhall, under the presidency of Sir CHARLES WAKEFIELD, who afterwards entertained the members to lunch, when both he and the principal guest, Mr. J. R. CLYNES, M.P., spoke of welfare work in factories and deplored the retardation of progress owing to industrial conflict. Sir Charles Wakefield renewed a previous plea of his for a five years' truce in industry.

Food and Industrial Hygiene.

Among other events of Wednesday morning was a session of the Section of Hygiene and Food, at which Professor H. R. KENWOOD spoke on the trade pasteurization of milk—a measure, he said, which served the mutual interests of the trade and the public. With regard to the objection that pasteurization led to a loss of vitamins, he said that only the antiscorbutic vitamin, of which milk was a poor source, could be affected by low temperature pasteurization. All infants, even when fed on raw milk, should be given a little antiscorbutic, such as orange juice.

The Section of Hygiene and Industry was addressed by Mr. J. R. CLYNES, M.P., who spoke on industrial welfare, and by Professor EDGAR COLLIS, who discussed the future of the factory medical service. Professor Collis said that of the two proposals contained in the Factories Bill, 1924—one, to substitute for the office of certifying surgeon the post of "appointed doctor," which meant a practitioner selected by the factory and duly appointed for the examination of young persons previous to employment, and the other, the transfer to the local authority of the duty of arranging for such medical examination—he hoped only the first would become law, since it called upon industry to perform certain health duties, but left industry, under inspection, master in its own house.

The Health of the Working Girl.

The Section of Personal and Domestic Hygiene was presided over by Miss ELLEN WILKINSON, M.P., and the principal discussion—on the health of the working girl of from 14 to 16—was opened by Dr. CHRISTINE MURRELL. Dr. Murrell said that in dealing with girls of this age it was important to remember that they were subjected to a double strain in that they had to submit to the conditions required in the labour market while still passing through one of the most vital periods of life. She instanced certain disabilities to which they were liable, such as errors of spinal growth and anaemia, and pleaded for welfare work, the provision of healthy exercises, and a sympathetic understanding of their emotional state. In the discussion which followed, Sir THOMAS LEGGE, senior medical inspector of factories, made the remark that in his view there had been a great improvement both in the health and looks of the working girl during the last twenty years. From 30 to 38 per cent. of working girls suffered from anaemia twenty years ago; to-day he would put the figure at 5 per cent. In visiting factories he noted the looks of the workers, and found that three-fourths of them could be described as good-looking—their features might not be classical, but they were pleasing—and very few were ugly. The discussion widened into the question of the employment of women after marriage, and Dr. LETITIA FAIRFIELD, who replied in Dr. Murrell's absence, said that of the women who continued at work after marriage all but a negligible proportion did so from economic necessity, and not from personal preference. Given proper economic conditions, the question of married women's employment, like other questions, would settle itself.

Unification of Health Administration.

Dr. G. F. BUCHAN presided over the Conference of Medical Officers of Health, when the subject of health administration in relation to Poor Law reform and national health insurance was discussed. Dr. Buchan considered that the provisional proposals for Poor Law reform prepared in the Ministry of Health, while not unworkable, did not carry things very much further towards the complete unification of health services. He believed that no solution of the problem of local health administration would be satisfactory which was not based on the principle that in each area there should be one local health authority, and one only, and that each such authority should be directly under the control of the Ministry of Health without the intervention of a third party.

Dr. EUSTACE HILL said that if the views put forward by the Ministry of Health with regard to the transfer to county councils of the sanitary services for rural and small urban districts came to pass he hoped that the county councils would have power to combine sanitary areas in order to get a sufficient unity of population, and that to the districts so combined whole-time medical officers of health would be appointed, with control of the whole of the communal health services, including some special services at present undertaken by the county councils themselves.

Dr. H. B. BRACKENBURY made a contribution to the discussion, which was in substance a recapitulation of the arguments put forward in the memorandum on this subject published as an appendix to the Report of Council of the British Medical Association.[1] He contended that there should be a local unification of health administration, not a mere co-ordination of the administrative work of various local public health authorities. The local machinery of administration should involve the establishment by each local authority of a statutory health committee, somewhat on the lines of the present education committees, and every such committee should contain, as a minority, representatives of the medical profession of the area and of other bodies experienced in public health work. In each local area also there should be a representative local medical committee to advise on medical matters. All the services which could properly be regarded as health services should be brought within the purview of one authority in each area. It was particularly undesirable that a county council should be placed in a supervisory or controlling position with regard to large boroughs or urban districts within its area in respect of health matters.

Mr. H. L. EASON (Guy's Hospital) claimed that the general hospital in any scheme should not be regarded as a hospital of second instance—an institution to which the patient could go only on the recommendation of somebody else. He urged two reasons for the continuance of free access of the patient to the general hospital—that it was essential that medical students should see all types of disease, trivial as well as serious, and that a voluntary hospital, to fulfil its function as a charity, must provide for the poor person what the rich could afford to pay for—namely, an independent second opinion. Dr. A. E. COPE said that all Poor Law district medical officers and public vaccinators would welcome the increasing co-operation to which the proposed new administration would lead; in the past they had felt themselves cut off from everyone else. Dr. JAMES FENTON (M.O.H. Kensington) dealt with the London problem, and outlined a more even distribution of functions in metropolitan public health administration whereby the London County Council would delegate more of its health functions to borough councils and would remain itself in a supervisory capacity as a kind of provincial board of health for London.

Jubilee Dinner of the Institute.

The jubilee dinner of the Institute took place at the Hotel Cecil on July 8th, when, in the absence of the Minister of Health, who was detained by his duties at the House

[1] BRITISH MEDICAL JOURNAL SUPPLEMENT, May 1st, 1926, p. 172.

by differences in diet, climatic conditions, etc. The committee decided, therefore, to obtain a large quantity of insulin of uniform strength, to determine its strength as accurately as possible in Toronto units, and then to redefine the unit in terms of a weight of the standard preparation. The work involved in carrying out this scheme is summarized in the pamphlet under review.

The British National Institute of the Medical Research Council obtained half a million units of insulin from five different sources in four different countries. This was purified by Dr. Dudley, and was reduced to a dry powder. This powder was assayed in five laboratories in England and America, and the results only varied between 8.4 and 8.8 units per milligram. This accuracy in the results was as satisfactory as it was remarkable. The details in the report show, however, how extensive is the scale of experiment necessary in order to obtain such results. Dr. Clowes of the American Lilly Research Laboratories mentions that from 1,000 to 1,500 rabbits are there used for the assay of a single batch of insulin. The University of Toronto used fewer rabbits, but a preliminary trial on 52 rabbits gave a value of 6.5 units per milligram, while repetition of the test on 200 rabbits gave a value of 8.5.

At the second international congress in Geneva in 1925 it was agreed that the international unit for insulin should be 0.125 mg. of the dry standard preparation, prepared and kept by the Medical Research Council, and that small amounts of this standard preparation should be distributed to all countries desirous of carrying out tests for the standardization of insulin. The conference recommended that in future this should be the only insulin unit used, so that the danger of confusion between the so-called physiological and clinical units may be eliminated. The new unit will be almost identical with the Toronto clinical unit, which has been in use in England for the last two or three years. This unit is about one-third of the original rabbit unit.

The main results of this work of the Health Organization of the League of Nations are twofold. In the first place, a reliable and constant standard has been set-up, and in the second place the standard will be accepted generally, so that it will be possible to compare therapeutic results obtained in different countries.

The whole success of insulin therapy really depends upon an accurate method of standardization, and the work under review is a striking example of the way in which an important and difficult scientific problem can be solved by international co-operation.

KALA-AZAR AND THE SANDFLY.

THE first report of the Kala-azar Commission of India, dealing with the work of the period 1924-25, was published in Calcutta last February as No. 4 of the Indian Medical Research Memoirs,[1] but reached us only in June. The Commission is in reality a twofold one, in that to the Government Kala-azar Commission is affiliated the Kala-azar Ancillary Inquiry, working at the Calcutta School of Tropical Medicine.

The primary aim of the Commission was to elucidate, if possible, the long-debated question of the mode of transmission of the disease. Kala-azar is exceedingly prevalent in Assam, and the headquarters of the Commission were therefore fixed at the King Edward Memorial Pasteur Institute, Shillong, with a field laboratory at Golaghat. This report reveals the vast amount of work that has been done. Lieut.-Colonel Christophers has written an introductory chapter outlining succinctly the general trend of the numerous papers which follow.

The report proper consists of five parts, to each of which several papers are contributed. The first deals with the morphology, life-history, and bionomics of the Leishmania parasite as revealed in culture. Consideration of numerous questions into which we have not space to enter here seemed to point inevitably to some blood-sucking insect as the intermediate host and vector. Fleas, bed-bugs, reduviid bugs, lice, mosquitos, sandflies, and, of arthropods other than insects, the ticks, have all been from time to time, but mainly on hypothetical grounds, suggested as vectors. Mechanical transmission by non-blood-sucking flies had also to be taken into account. In addition, possible helminthic vectors were carefully considered, and some were tested experimentally. The difficulties were the greater owing to the fact that many of them may harbour herpetomonad forms of flagellates having nothing to do with kala-azar. One example, merely by way of illustration, may be given of the amount of work involved. The previous investigations of Mackie in 1914-15, and of Cornwall in the following year, had tended to reduce greatly the value of the arguments incriminating the bed-bug. Experiments were carried out over a period of fifteen months with twenty-five monkeys (*Macacus rhesus*), and on the death of any animal its organs were thoroughly examined, not only microscopically but culturally, but with uniformly negative results, thus giving a definite quietus to the long-held and plausible theory of the bug as the vector.

The second part of the report details experiments carried out with some other possible vectors. The question of direct contaminative infection, again, could not be thrust aside without adequate testing, nor that of faecal transmission, provided that the parasite could infect by ingestion. Experiments directed to this end were not altogether decisive, though they seemed to suggest that such a mode of infection may be possible. The discovery was next made, by the Ancillary Inquiry, that the parasite readily underwent development in the sandfly, and the Assam Commission, employing *Phlebotomus argentipes*, soon confirmed this. The third part of the report, consisting of eight communications, details the numerous transmission experiments carried out with this insect. The conclusions drawn and stated at the termination of these papers are made with great caution and good judgement. The main difficulty was, not to obtain development in the gut of the sandfly, but the fact that the insect always dies by the fifth day after feeding, unless, as in some instances, it could be kept alive for eight days by preventing fertilization. If death occurs naturally after so short an interval the efficiency of the sandfly as a transmitter is not likely to be great, unless there is a second, more favourable, host to carry on the work. On the other hand, it is also improbable that the parasite should develop as far as it does if this insect is not a true intermediate host. All that can be said at present is that the phlebotomus is very probably the transmitting agent, but the final crucial test of experimental transmission by this insect is still to be successfully performed.

The fourth part consists of four contributions on the *Phlebotomus argentipes*, its morphology, life-history,

[1] Memoir No. 4, Indian Medical Research Memoirs: Supplementary Series to the *Indian Journal of Medical Research*. Reports of the Kala-azar Commission, India, Report No. 1 (1924-25). Calcutta: Thacker, Spink and Co.; London: W. Thacker and Co. February, 1926. (Cr. 4to, pp. 288; illustrated. 11s. 6d.)

British Medical Journal.

SATURDAY, JULY 17TH, 1926.

HORSLEY MEMORIAL LECTURE.

SIR VICTOR HORSLEY'S premature death in the service of his country in 1916 removed a pioneer in the science of neurology and in the surgical treatment of nervous diseases. His work will long keep his memory green in the history of the department of medicine which he did so much to advance, and his followers have paid their tribute to his leadership by establishing a memorial lectureship. The first triennial Horsley Memorial Lecture was given on October 25th, 1923, by Professor Sir E. Sharpey-Schafer, on the relations of surgery and physiology, in which he spoke of surgery as based on physiology. The Edinburgh professor had been a colleague of Horsley at University College, and this year the second lecture was given on July 9th by Mr. Wilfred Trotter, senior surgeon to University College Hospital, who was very closely associated with Horsley in his surgical work, and now supplements Sir E. Sharpey-Schafer's contribution by showing that surgery may advance physiology, just as Sir Archibald Garrod, in the Harveian Oration of 1924, set out "The debt of science to medicine." This year's Horsley Memorial Lecture was of the high standard entirely worthy of the occasion, as may be judged by those who will read its full text published in the opening pages of this issue.

In his account of the insulation of the nervous system Mr. Trotter provides his readers—and everyone who did not form part of his audience at the British Medical Association House should take advantage of this further opportunity—with much that is new and stimulating as the products of an original mind. Utilizing his observations as a surgical neurologist on injuries of the nervous system, he throws fresh light on some dark and disputed regions of physiology. From consideration of amputation neuromas and of breaches made in the spinal and cranial dura mater, which allow contact between the nervous and the other tissues of the body, he shows that these are followed by an energetic local reaction resulting in the formation of a highly specialized material and not of a mere scar; in the case of a divided nerve the irritant is the naked axis cylinder, and for the changes in the dura mater the cerebro-spinal fluid is responsible. The insulation of the peripheral nerves is not by the medullary sheath but by the neurilemma which surrounds the sensory axis cylinders everywhere, except at the periphery of the nerves concerned with the perception of pain. This exception has an interesting bearing on the physiology of pain, for the correlation between the anatomical arborescences of pain nerves and the character of painful sensation points to a primitive and crude anatomical and physiological stage. Further, it is shown to be probable that the modifications in all forms of sensation, so as to resemble pain, which characterize regeneration of a cut nerve are a regression of function to the level of perception of pain, and that this regression depends on the non-insulated condition of the nerve fibrils during the process of regeneration. Mr. Trotter makes the attractive suggestion that the cause of von Recklinghausen's multiple neurofibromatosis is absence of neurilemma, so that the non-insulated nerve fibrils irritate the somatic tissues and cause fibrosis, much as a foreign body or a micro-organism of highly attenuated virulence might.

The central nervous system is insulated as a whole mechanically by the meninges and chemically by the cerebro-spinal fluid, and Mr. Trotter persuasively argues that the function of the cerebro-spinal fluid, which is picturesquely described as "Nature's nearest approach in the animal body to a spring of pure water," is to remove the products of cerebral metabolism and dilute them to a degree rendering it safe for them to pass into the general circulation. The influence of the insulating boundary between the central nervous system and the other tissues of the body is illustrated by the behaviour of intracranial tumours; the neural tumour glioma never invades the meninges or the skull, whereas the dural endotheliomas commonly attack the cranial bones but never the brain.

THE STANDARDIZATION OF INSULIN.

THE establishment of some accurate standard of potency is the first obvious necessity whenever a new remedy of unknown chemical composition is introduced into medicine. A second and almost equally difficult problem is to secure the general acceptance of a single standard. Standardization is a relatively simple problem when chemical methods are adequate, but biological methods of standardization cannot be avoided in the case of substances of unknown chemical composition, and, indeed, are often needed even when the chemical composition is known. Unfortunately there is no such thing as a standard animal; hence all methods of biological standardization are difficult, and accuracy can be obtained only when tests are performed on a large number of animals. Moreover, even minor variations in methods usually suffice to render the results worthless for comparative purposes; the most rigid exactitude in all details of technique is required to obtain satisfactory results.

No method of biological standardization at present devised can be regarded as completely satisfactory, and in the past the tendency has been for each country to set up its own method of standardization, a procedure which results in confusion which is always unfortunate and often actively dangerous. This danger was threatened in the case of insulin, but fortunately the problem has been tackled by the Health Organization of the League of Nations, and it has succeeded in devising an international standard, which it may be expected will meet with universal acceptance. This work was commenced at an international conference on the standardization of drugs held at Edinburgh in 1923, and was continued at a second conference at Geneva in 1925; the conclusions have now been published in a pamphlet.[1]

The first conference agreed that the unit for general acceptance should be similar to that laid down by the Insulin Committee of the University of Toronto. This unit is based on the measurement of the amount of insulin needed to produce a certain degree of hypoglycaemia in rabbits. The conference, however, had to make arrangements suitable for countries all over the world, and recognized that there was little likelihood that a unit so defined would afford the requisite degree of uniformity when applied in different institutions in different countries. For example, the individual variation in the response of rabbits in a single institution is always one of the most serious sources of error, and this error might be greatly increased

[1] *The Standardization of Insulin.* Pp. 72. Health Organization of the League of Nations.

of the whole tuberculosis problem, and the difficulty is only to be met by removing nursling infants from the proximity of infected persons, and especially from the care of tuberculous mothers. In Austria, where good work is being done in hospitals and dispensaries, von Pirquet's reaction is extensively utilized both by its author and by others. Infants exposed to risk which cannot be safeguarded in their own homes are placed with healthy families by private organizations; there are no public services under this head, and no legal sanctions for them. Czecho-Slovakia combats tuberculosis, including the tuberculosis of children, but without special reference to infants. In Hungary an official campaign is carried on, but the protection of infants has little part in it. The infant clinic at Budapest, however, is highly efficient, and suitable cases are sent to a lakeside sanatorium. France is the scene of much activity. Nurslings are withdrawn from infective surroundings. A special feature is ante-natal prophylaxis; if an expectant mother is discovered to be suffering from tuberculosis she is warned that her child must be removed from her care at birth. There is good co-ordination between infant centres, hospitals, dispensaries, and other charitable foundations. The work in general is under voluntary agencies, and is only subsidized from public funds through indirect channels. In Belgium the co-operation between infant welfare and tuberculosis control is weak. There is open-air treatment for the tuberculous at Knocke and elsewhere, but young infants are excluded. Holland takes an interest in the welfare of infants and in tuberculosis prevention, but there is little to report in the way of results, especially under school age. In Switzerland the idea of infant protection from tuberculosis has, it is said, taken a firm hold. The crèches at Neuchâtel accept the charge of infants from tuberculous families. The Lausanne dispensaries give special attention to infants exposed to risk, and tuberculous meningitis has become rare in the district. The countries reported on thus fall into three main classes. In the first class are Austria, France, Switzerland, and probably Hungary, where there is much local enterprise by medical charities and other private agencies, but without official recognition or without the effective form of recognition which is expressed by grants-in-aid. In the second class are Czecho-Slovakia, Belgium, and Holland, where nothing definite appears to be done for the infant exposed to tuberculosis. In the third class, by itself, is England, where the nursling at risk, though not specially marked for attention, is nevertheless protected, since it shares in the general well-being. Having regard to the situation as summarized above, the report expresses regret that the policy of protecting infants from tuberculosis by removing them from infected persons does not in general receive that position of honour which it is held to deserve. Its effective application, it is claimed, would strike at the root of tuberculosis. It would reduce infantile mortality by 30 per cent., being the proportion of tuberculosis deaths to total deaths in the first year of life. This proportion of 30 per cent. of tuberculosis deaths, which is quoted in the report from an American source, is unduly high if judged by British standards. It is open to doubt whether the reduction in the number of tuberculosis deaths under one year likely to ensue on the adoption of an intensive removal policy, even assuming the complete success of that policy in securing the object aimed at, would approach the figure suggested. The claims of the report, therefore, under this head appear to be overstated. Some of the tuberculosis developing in the early years of life succeeding the first must, and much of it may, be due to infection in infancy by either the human or the bovine type of the tubercle bacillus. The tuberculous mother, probably phthisical, would, as such, almost invariably harbour and disseminate the human type of bacillus, so that the removal of her infant from her care would certainly protect it to that extent from infection by the human type. But other forms of tuberculosis contracted in the first year, of which tabes mesenterica and glandular tuberculosis in early childhood may be cited as examples, are frequently of the bovine type, and the young infant, by being removed from its mother, would not necessarily be protected from them. Wherever bovine infection is prevalent the child would be subject to that infection in its new home as in the old, excepting in so far as its new environment might be more hygienic and its milk selected or pasteurized. It is asking too much of a method which is mainly directed against the human type of bacillus that it should also repress the bovine strain, which infects through a different channel. It is not intended by these remarks to depreciate the policy of infant protection by the methods now under notice. At Lausanne it is claimed to be justified by its results. At least it has been attended by a remarkable decline in the incidence of tuberculous meningitis, usually a human type of infection. As an item in a well organized tuberculosis scheme it has an obvious value. But however actively carried on it is, in the presence of bovine infection, only a partial defence. It cannot supersede other well known methods. The removal of an infant from its tuberculous mother will have served little purpose if the child is immediately afterwards infected by milk from a tuberculous cow. The English plan, to which the report refers, of making provision for infant protection from tuberculosis as a part of a general movement, shows practical sense and is apparently not ineffective. Balance as well as co-ordination must be observed in working out these measures. The protection of infants from tuberculosis by withdrawing them from contact with infected persons, and especially from the care of infected mothers, must surely be looked upon as a link in the chain, and not the chain itself.

TUBERCULIN TREATMENT OF TUBERCULOSIS.

OUR attention has been called to an error in an answer we gave on July 3rd (BRITISH MEDICAL JOURNAL, p. 47) to "Tuberculosis Officer," who asked if any investigation had been made by the officers of the Ministry of Health into the treatment adopted by Dr. Camac Wilkinson at his tuberculin dispensaries; and if so, what was the verdict as to the efficacy of the treatment. We stated that an inquiry was made in 1923, at the request of the Ministry of Health, by the Medical Research Council; but that "the report of the visitors was not, so far as we are aware, published, and was described as confidential." It appears that there were several errors in our answer. The inquiry took place as the result of a letter to the Right Hon. Christopher Addison, then Minister of Health, from the Tuberculin Dispensary League. The Medical Research Council asked Drs. G. T. Western, L. S. T. Burrell, and A. S. MacNalty to conduct the investigation. They reported early in 1921, and for a time the report was regarded as confidential. But owing to the publication of Dr. Camac Wilkinson's pamphlet, *The Tuberculin Dispensary for the Poor*, in the summer of 1923, the Medical Research Council consented to the publication of the report, which appeared in the issue of the *Lancet* for November 3rd, 1923 (p. 984). The conclusions reached by the committee were: That the evidence submitted by the Tuberculin Dispensary League was not as full and satisfactory as was desirable; that the method immunized patients to large doses of tuberculin, but that there was no evidence that it immunized them to tuberculosis; that the most favourable results related to Stage I (Turban-Gerhardt) cases, but that it could not be assumed that these patients were treated solely by tuberculin; that the mature age of many of the survivors was indicative of a chronic type of pulmonary tuberculosis, and that equal longevity could be

and bionomics, while the fifth and last gives an account of certain epidemiological researches, such as the incidence of kala-azar in various districts, a sand-fly survey of Madras Town, and a most able and informative paper, with carefully considered and cautiously expressed conclusions on the transmission of kala-azar in India from the consideration of the epidemiological aspect, by Dr. L. E. Napier. Among these conclusions it is stated that "every single epidemiological observation appears to be in keeping with the theory that this insect [*Phlebotomus argentipes*] is the transmitter of the causative organism of kala-azar."

This is the stage arrived at in this first report. It needs only the successful transmission of the disease experimentally to place at the summit the coping-stone of the edifice.

THE INCIDENCE OF CANCER.

REPORTS on the death rate of cancer accumulate, and the stories they tell are fairly concordant. The Department of Health has issued a careful study by Dr. M. J. Holmes[1] of the statistics of the Commonwealth of Australia, and the Metropolitan Life Insurance Company of New York has published a complete analysis of the experience of its Industrial Department[2] from 1911 to 1922. From the technical point of view the American report is the more satisfactory. Tests of the significance of the results from the statistical point of view (perhaps rather too lenient tests) are applied, and the question of age incidence is dealt with more adequately than in the Australian report, which relies too much upon the method of proportional mortality. These, however, are small points, and both studies are useful contributions to knowledge. In a general way the results of the analyses are similar. Thus, according to the American experience, there was no significant increase of cancer mortality (all forms) among white women at any age below 65—in fact, a significant decrease between 35 and 55. At ages over 65 there was a significant increase of 5.2 per 100,000 living in the age group 65-74, and of 14.8 in the age group over 75. The Australian report, although providing the necessary material, does not tabulate the annual rates of mortality in fine age groups. Taking decennial age groups, however, we find that the rate of mortality did not sensibly change between 1908 and 1923 in any age group between 40 and 70, but increased decidedly both in the group 70-79 and in that of 80 and over. In the former the increase was from 607 per 100,000 in 1908 to 854 in 1923, in the latter from 834 to 966. This concentration of increase upon the older age groups seems to be a world-wide phenomenon. The experiences further agree in showing (at certain ages) an increase of cancer of the female breast, and no increase of the rate of mortality from cancer of the female genital organs. Similar results have been found in this country. Both in America and Australia mortality from cancer of the digestive tract is increasing. The American authors remark that 60 per cent. of the mortality from this group of cancers resulted from growths in the small intestine, or in some part of the large intestine other than the rectum or anus. About 31 per cent. of the deaths were due to rectal and anal growths, while 6.5 per cent. were due to cancers in mesentery or peritoneum. Dr. Holmes noted that mortality from cancer of the digestive tract was the outstanding factor in connexion with the increase of cancer mortality in recent years. Having regard to the interest taken in statistical studies of cancer, it is a pity there is no uniformity of the methods of presentation. Thus it is troublesome—indeed, without special calculation, impossible—to compare directly the results in these two reports. The best way to standardize statistics of cancer is a matter worthy of the consideration of the Health Committee of the League of Nations.

[1] *Cancer Mortality in Australia: A Statistical Study.* By M. J. Holmes, D.S.O., M.B., D.P.H. (Commonwealth of Australia, Department of Public Health. Service Publication No. 30. Melbourne, 1925.)

[2] *Cancer Mortality among Insured Wage Earners and their Families: The Experience of the Metropolitan Life Insurance Company, Industrial Department, 1911 to 1923.* New York, 1925.

THE RECENT EPIDEMIC OF SMALL-POX IN FRANCE.

AN epidemic of small-pox of rather severe type, but limited in extent, occurred in France during last autumn and winter. It appears to have begun in the Midi in October of last year, amongst Spanish rag-and-bone men in Toulouse. It spread to l'Hérault and other regions in the south, and ultimately appeared in Paris, being present there from December, 1925, to April of this year. The outbreak did not resemble the comparatively innocuous form commonly termed alastrim; in Toulouse the mortality was 25 per cent., in l'Hérault about 33 per cent., and in Paris (where, however, there were only 24 cases) it was 20 per cent. Dr. M. L. Camus, in a paper communicated to the Académie de Médecine of Paris on June 22nd, after pointing out that very few people are immunized for the whole of their life by a single vaccination, said that he was inclined to recommend revaccination every three years. He attributed the long duration of the outbreak in the Midi as compared with Paris to the difference in the energy with which the disease was combated in the two places. To stay an epidemic three measures must at once be rigorously applied: the isolation of those attacked, the disinfection of contaminated places and things, the vaccination without exception of everyone who has come into contact with the patient, and of everyone in offices, manufactories, or schools to which the patient has had access. In France very little difficulty was experienced in getting people to be revaccinated. Posters were put up, especially at railway stations, calling attention to the danger, and large numbers flocked to the institutions for vaccination. As Dr. Camus expresses it, fear is the beginning of wisdom. Apparently strangers from Tunisia and Algiers are very apt to introduce the disease into France; and Dr. Camus urges that they should be revaccinated before being allowed to leave their own country. Dr. Arnold Netter, at the same session of the Académie, described the epidemics in Switzerland, England, and the United States, which, though very much milder, had, he said, been decidedly more extensive and of longer duration than in France. The evidence from Switzerland is interesting because it shows that the incidence of the disease was much less in the French-speaking than in the German-speaking cantons. In the former vaccination is still obligatory, in the latter it is not. According to Dr. Netter, of the 2,483 small-pox cases in England in 1923, 83.5 per cent. had never been vaccinated, and only 4 per cent. showed recent revaccination. Dr. Netter discusses certain ill effects of vaccination, and declares that violent reaction is not attributable to impurity of the lymph, but to its great activity. With the very active lymph now in use it is considered advisable to diminish the number, extent, and depth of the insertions, although the duration of immunization will not be so long. The eleven cases of tetanus following vaccination in America were due, Dr. Netter pointed out, to the use of protectors analogous to "corn plasters" or "bunion pads."

PROTECTION OF INFANTS FROM TUBERCULOSIS.

A REPORT by Dr. Paul Labesse on the protection of children in the first year of life from infection by tuberculosis presents an account of what is being done in various European countries as observed in the course of a tour of inspection organized by the League of Nations. Infection in infancy is described in the report as the crux

with sleeplessness, anxiety and mental depression, were, the committee said, present in the later stages. The committee cited as modern views of the disease that it may be either an oculomotor fatigue or a general neurosis with local oculomotor involvement, clearly contemplating that in certain cases at least it may be chiefly a disease of the nervous system. With regard to the utility of brighter illumination for the prevention of nystagmus the divergence between Dr. Fergus and the committee is complete. If it has been made manifest by the trials made—assuming that these have been sufficient in number, extent, and duration to warrant a definite conclusion—that lighting is no remedy, it follows that the industry should not be asked to bear further charges for lighting reconstruction. If lighting is no remedy it follows also that deficient illumination cannot be the essential factor in the causation of miner's nystagmus, and the whole question remitted to the nystagmus committee is reopened from the beginning. The facts as to the results of the lighting improvements will doubtless be made known when available. Meanwhile Dr. Fergus himself has been pursuing inquiries, and has obtained statistics which he hopes to publish before long. Their appearance will be awaited with interest.

A LABORATORY FOR THE STUDY OF MENTAL ABNORMALITY.

SOME years ago Dr. Arthur MacDonald drafted a bill "to establish a laboratory for the study of the abnormal classes," which has been endorsed by many leading medical, legal, and religious organizations in the United States, and also by the International Congress of Criminal Anthropology of Europe. This bill was twice reported upon favourably by the Judiciary Committees of both Houses of Congress, but failed of passage through delay. Dr. MacDonald ceased to press the bill in Congress, but owing to the increase of these evils, which it is the purpose of the bill to prevent or lessen, he considers it high time that a rigid scientific study of the individuals producing these evils should be instituted by the Government. He points out that the cost of these antisocial personalities to the United States is more than one billion dollars a year, including all patho-social activities outside of institutions, not to mention the still greater moral damage involved. The proposition is to spend $110,000 per annum to combat this enormous annual drain upon the American people by the latest methods known to science. The main purpose of this bill is to provide for the study of the causes of crime, insanity, pauperism, alcoholism, defectiveness, degeneracy, and other forms of abnormality, with a view to lessening or preventing them; but in addition to this general scope of the bill there are some other direct ends which it is expected to accomplish. Such ends are to discover whether or not there are any physical and mental characteristics that distinguish abnormal from other children, with a view to protecting children in advance; to undertake the exhaustive study of single typical criminals in order to determine how men come to go wrong, and to what extent their surroundings influence them as compared with their inward natures; to summarize and combine results already gathered by State and Federal institutions, encouraging uniformity of method in collecting data useful generally to all States; and to lessen the enormous expense to the community of the abnormal and delinquent classes by a study of the evils which lead to such expenditure. Dr. MacDonald is of the opinion that the acquisition of proper and full statistics would in itself justify the bill which he proposes. A similar suggestion was made by Professor Kraepelin, who maintained that psychiatric investigation on a large scale is necessary to determine whether the general tendency of civilized communities is towards decadence on the one hand, or progressive development of productive and resistive power on the other. We need what he describes as a "mass psychiatry," having at its disposal statistics in their widest scope, to provide the foundations for a science of mental health—a preventive psychological medicine for combating all those mischiefs which we group under the head of mental degeneracy. We shall watch with interest further developments in connexion with this bill, which appears to have the support of those best qualified to estimate its social significance. It would certainly seem that a laboratory such as the author describes would be of considerable service to the community.

THE ROSS INSTITUTE AND HOSPITAL FOR TROPICAL DISEASES.

IN anticipation of the opening by the Prince of Wales on July 15th of the Ross Institute and Hospital for Tropical Diseases at Putney Heath, Sir Charles McLeod, chairman of the council of the institute, Sir Ronald Ross, director-in-chief, and the members of the staff gave a reception last week to a number of journalists, to whom they explained its methods and purposes. Since the appeal for a Ross clinic was made, above the signatures of many eminent persons, in 1923, a good many disappointments have been experienced in the endeavour to acquire a suitable building. If the public dislike the proximity of an ordinary hospital, the idea of a hospital for tropical diseases appears to evoke still greater objection. Eventually, however, the freehold was secured of a modern mansion known as Bath House, standing in its own grounds of two and a half acres, on the border of the famous heath where nowadays the highwaymen and gibbets are scarcely a memory. A good deal of structural alteration within and without has been necessary, but the result is a beautiful as well as a convenient building, and not often do the windows of laboratories look out upon such refreshing views. The purpose of the institute, as explained by Sir Charles McLeod, is primarily intensive research work on the prevention and treatment of tropical diseases, but it is also to serve as a hospital (in a small way, at all events at first) for sufferers from such diseases, and as a propagandist centre for stimulating and assisting control work in malaria and other diseases of tropical countries. It is hoped that the institute will take its place in that little group of institutes in various parts of the world which in their name commemorate a distinguished pioneer, such as the Pasteur Institute in France, the Gorgas Institute at Panama, and the Kitasato Institute in Japan. Sir Ronald Ross told the assembled journalists that although, by the wish of the council, the institute bears his name, its inception was not due to any idea of his own. In 1917 Dr. Aldo Castellani, who is now director of tropical medicine and dermatology at the institute, came to him with a proposal to raise a public subscription to found a Ross clinic with laboratories. The preoccupation of the war prevented the idea from being carried further at that time, but later on Dr. Castellani renewed his suggestion, and with Sir William Simpson, now the institute's director of tropical hygiene, worked out a plan. In response to a public appeal many contributions were received, especially from companies interested in tea and rubber plantations in the East, and also from Governments and municipalities of British possessions, and from Indian princes and others. It was proposed, among other subjects, to carry out researches on cancer and smallpox. The object of the institute is to assist generally in the control, prevention, and cure of the diseases, especially malaria, which lay waste the tropics, and it is hoped to raise an endowment fund of a quarter of a million. The visitors were then taken over the laboratories of Sir Ronald Ross and his two colleagues, Sir William Simpson and Dr. Castellani, and were also shown the library of tropical diseases which is in course of formation, and the nucleus of

seen in cases untreated by tuberculin; that occasionally individual patients derived distinct benefit from tuberculin treatment, but that there was always the risk that large doses of tuberculin might light up latent foci of the disease. For these reasons the investigators were of opinion that the method of tuberculin administration advocated by the Tuberculin Dispensary League had no claims over other methods of treating tuberculosis which would justify its general adoption.

THE REBUILDING OF "BART'S" IN THE EIGHTEENTH CENTURY.

SIR D'ARCY POWER has contributed to *St. Bartholomew's Hospital Reports* a paper, "The rebuilding of the hospital in the eighteenth century," from which it appears that even the two large volumes of Sir Norman Moore's history do not tell the whole story. In 1723 a general court decided on rebuilding some part of the house, and appointed a committee, among whose members were Drs. Mead and Freind and the architects Nicholas Hawksmoor and James Gibbs, with instructions to prepare a plan. Both these architects have left their marks on the church buildings of London. Both of them were steeped in the Wren traditions, and especially Hawksmoor, who was the scholar and domestic clerk of Sir Christopher. The two took a large part in designing and building the fifty new London churches at the close of Queen Anne's reign, but Gibbs's greatest claim on the interest of the medical profession, especially of its London consultants, rests on his building of St. Peter's, Vere Street, a church which has a peculiar connexion with the medical quarter and in which the funeral services of many of the great ones of medicine and surgery have been held. These two artists freely gave their services to St. Bartholomew's, and Gibbs in particular gave his designs and supervision to the work of rebuilding. Neither of them could produce anything to rival Wren's best work, such as the steeple of St. Mary-le-Bow, and in the heyday of the Gothic revival their work was despised as dull and heavy; but in these days, when even the baroque style has its enthusiastic admirers, we are once more allowed to find beauty in the work of the followers of Wren. But a more interesting person than either of the architects was soon added to the court in the person of Ralph Allen of Bath, the Squire Allworthy of *Tom Jones* and the host and benefactor of Fielding and of Pope and of many others. The former has immortalized his friend in "that exquisite picture of human manners," and the latter, in his *Satires of Horace*, wrote:

> "Let Humble Allen, with an awkward shame
> Do good by stealth and blush to find it fame."

Allen, after making a princely income by reforming the postal services, became still wealthier as the proprietor of quarries near Bath. In the *Dictionary of National Biography* it is stated that "he cased the exterior of St. Bartholomew's Hospital in London with stone at his own expense." Sir D'Arcy Power shows that this statement is inaccurate. Allen was an open-handed philanthropist, but he was enabled to become so by his keen business instincts and methods. He frankly told the authorities of St. Bartholomew's that his offer to supply the stone at a low price was inspired by a desire to get his stone known and to form a market for it in London. As things turned out he must have lost a great deal of money by his contract. The stone was conveyed from the quarry to barges on the river Avon, and then by water to Bristol, where it was put on shipboard for the sea voyage to London. All went well with the building of the first and second piles of the new structure, but soon after the third was begun the war of the Austrian succession broke out, and the risks to shipping were very grave. Even when Allen bought a quarter of a ship the press-gang and the temptations of service in privateers made it difficult to man her, and enemy action rendered the voyage dangerous. Finally, the ship was cast away, to Allen's loss. These and other causes delayed the work, so that the rebuilding was not finished till 1752, when the inscription over the inner gateway of the hospital was set up, but a later addition to this inscription stated that it was finished in the year 1770. Last year the members of the British Medical Association who attended the Annual Meeting at Bath had opportunities of seeing some of the results of Allen's philanthropy in the building of the Royal Mineral Water Hospital, as well as the magnificent home which he built for himself at Prior Park. Another great man and governor was William Hogarth, who was born in Bartholomew Close, and whose paintings on the walls of the great staircase are familiar to all visitors to the hospital. He grasped at the opportunity of showing his powers in the great style of history painting, and, as he said, "with a smile at my own temerity, commenced history painter," with "two Scripture stories, the 'Pool of Bethesda' and the 'Good Samaritan,' with figures seven feet high." But the public knew better than he did in what style of painting he most excelled, and, as he said, he "returned to the pursuit of my former dealings with the public at large." We are glad to note that this paper is only an instalment, and we look forward to the continuation which Sir D'Arcy Power promises to us.

MINER'S NYSTAGMUS.

THE committee appointed in 1920 by the Medical Research Council to investigate the causation and means of prevention of miner's nystagmus announced in the following year its unanimous conclusion that the essential factor in its production was deficient illumination. This was ascribed to the low lighting power of safety-lamps, their distance from the objects looked at by the miner, and the absorption of light by the dark surface of coal. The committee recommended by way of prevention that the standard of illumination of objects, in all places where work was done, should be made equal to that of open-light pits, either by increasing the power of safety-lamps or by the introduction of portable electric lights. The personnel of the committee commanded respect: their investigations covered an extensive field, and the conclusions reached were broadly supported by the data they brought forward. It appeared to many that the etiology of miner's nystagmus had found at least a provisional explanation, and that time should be given for the proposed remedial measures to be put to the full test of experience. It is therefore noteworthy that an ophthalmologist of the standing of Dr. Freeland Fergus of Glasgow, who is familiar with miner's nystagmus as a referee, should have stated recently[1] that the nystagmus committee, in his view, went on wrong lines, and that the remedy suggested has only made matters worse and put owners to great and needless expense. The change from the safety-lamp to electric light, he says, has in certain pits increased the number of cases of nystagmus: he even quotes one pit by name where the nystagmus rate rose when the safety-lamp was given up, and fell again on its reintroduction. He contends that miner's nystagmus is chiefly a disease of the nervous system. Though its cause, so far, is undiscovered, he does not regard it in any sense as within the province of the ophthalmologist; he hands on the problem to pathologists, neurologists, and medical officers of health for exploration in their several departments. In laying stress on the nervous factor Dr. Fergus does not seem to be really at variance with the reports of the nystagmus committee. It described the eye movements as but one among the manifestations which go to make up the symptom-complex; neurasthenia, or neurosis

[1] *Glasgow Medical Journal*, March, 1925.

visiting or resident physicians. The ideal would be to utilize to the utmost the existing staff of medical officers and link them up with such specialists as the circumstances of each hospital required. At the head would be the clinical director, and each of the other medical officers should be required to make as might be necessary one or more branches of medicine besides clinical psychiatry a special study. The work should be done, so far as these special branches were concerned, under the direction of the appropriate visiting specialist, subject, of course, to the clinical director. Each hospital would settle for itself the number and character of its specialists and consultants, the most essential being a dentist, an ear, nose, and throat specialist, a neurologist, and a gynaecologist. The effort of the team should be first to concentrate on the ascertainment of the morbid physical processes at work and their alleviation, the psychic examination in the meantime being purely objective. In the final passages of his address he spoke of the reconstruction of psychiatry as a medical science, and pointed out what wealth of psychiatric material there was in general medicine. One field, the last to be cultivated, but perhaps the richest in potentialities, was the field of general practice.

The Madness of Ajax Clinically Considered.

Dr. G. A. AUDEN read a paper on the madness of Ajax as conceived by Sophocles. He said that the description of rapidly varying emotional states, with a maniacal outburst followed by depression culminating in suicide, furnished a clinical picture which must have been the result of experience. He compared it with the description of confusional insanity in a modern textbook. For accuracy in clinical detail Dr. Auden considered the Greek tragedian superior to Shakespeare, and claimed him as the first of the long line of physician-poets, extending down to our own day, as exemplified in the present laureate.

Dr. T. B. HYSLOP thought that the case of Ajax in a modern court of law would come under the M'Naghten rules, though whether the legal mind would properly assess it was doubtful. Sophocles was always interesting for his intimate knowledge of clinical psychology. Professor G. M. ROBERTSON said that the description of the symptoms of confusional insanity was about as perfect as it could be. If any student gave such a description as that given by Sophocles he would get full marks.

BRITISH EMPIRE CANCER CAMPAIGN.

THE Duke of York presided at the third annual general meeting of the British Empire Cancer Campaign held in the House of Lords on July 12th, and drew attention to the activities of the various counties in establishing their own research centres or setting up county committees to aid the central fund. Sir John Ferguson announced that the midsummer ball organized by Lady Cavé had yielded £1,600. To the annual report, edited by Mr. J. P. Lockhart-Mummery as in the previous year, Lord Cave, chairman of the Grand Council of the Campaign, contributed an introduction, in which he referred to the great impetus that has been given to cancer research, the harmonious co-operation which has been established between cancer research committees and individual workers, and to the publication of a journal of abstracts and reviews, for the initial expenses of which the Campaign has allocated funds. Grants for the year ending May 31st, 1926, were made to the Birmingham University Cancer Research Centre, £4,047; the Cancer Hospital, £2,500; Coombe Lying-in Hospital, Dublin, £200; the London Association of the Medical Women's Federation, £600; Middlesex Hospital, £3,000; St. Bartholomew's Hospital, £1,695; St. Mark's Hospital, £500; Westminster Hospital, £500. Grants had also been made to ten research workers, and £600 had been expended in connexion with visits to American and Continental cancer research laboratories; the total amount distributed was £16,757; the body of the report is taken up with statements from these institutions and individuals. The Cancer Research Department of the Middlesex Hospital has continued the investigations carried on last year, particular efforts being made to determine the way in which the malignant cell differs from a normal cell. Experimental work has also been performed in connexion with tar cancer and the Rous sarcoma; in the latter case the work undertaken has been on the lines suggested by the researches of Dr. Gye and Mr. Barnard. The effects of x rays on metabolism have been further investigated, and researches continued into the Abderhalden reaction. Radiological studies included the general reactions of tissues to radium and x rays, and the biological and chemical effects of visible and ultra-violet radiations. At the Cancer Hospital Research Institute various experiments with coal and acetylene tars have been made, and the work on the carcinogenic properties of mineral oils concluded. At St. Bartholomew's Hospital the effect of radiation on mitosis in the tumour cells is being investigated in the hope that some indication may be afforded thereby of the proper intervals which should be allowed in the split dose methods. At St. Mark's Hospital investigations are proceeding in connexion with the relation between simple and malignant tumours of the bowel; a survey is being made of the value of laboratory tests on the faeces in the diagnosis of cancer of the bowel, and investigations are being continued into the effect of large doses of colloidal copper and lead on malignant tumours. Under the auspices of the Campaign the old suggestion that "cancer houses" play an important part in the production of cancer is being studied. Professor R. T. Leiper now reports definitely that there is no evidence that the *Gongylonema* worm is associated with gastric carcinoma in man, nor that rats in old "cancer houses" harbour this worm and convey it to man. We referred on June 12th last (p. 1002) to this investigation of Professor Leiper, which has destroyed one of the few apparently solid pillars supporting the "cancer house" hypothesis.

BEIT MEMORIAL FELLOWSHIPS.

THE annual report for the year ended June 30th, 1926, has been presented to the Beit Memorial Trustees by the honorary secretary, Sir James K. Fowler, M.D. It records that during the period under review research work has been carried on by two senior fellows, two fourth-year fellows, and twenty-two junior fellows. Dr. T. R. Elliott, F.R.S. (assistant honorary secretary), has now completed a record of the after-histories of all the Beit fellows appointed since 1910, and the details will appear in the next issue of the book of regulations.

Election to Fellowships.

The trustees have elected Ernest Basil Verney to a senior fellowship (value £600 per annum), and William Kershaw Slater, Harold John Channon, and John Maurice Hardman Campbell to fourth-year fellowships of the value of £400 per annum.

The following have been elected to junior fellowships, each of the value of £350 per annum.

RICHARD JAMES LYTHGOE, M.A., B.Ch.Cantab., Sharpey Scholar, University College, London, who will investigate the electrical reactions of the optic and auditory nerves to sensory stimuli of varying wave-length, intensity, and quality.

FRANK MACFARLANE BURNET, M.D.Melb., temporary assistant, National Collection of Type Cultures, Lister Institute, who will undertake a study of bacteriophage in relation to the treatment of enteric bacillary infections.

JOHN GLOVER HUGO FREW, M.Sc.Birm., working at the Research Hospital, Cambridge, who will investigate the physiology of the blow-fly, particularly during metamorphosis.

MAURICE WALTER GOLDBLATT, M.D., B.Sc.Belfast, now working in the Dunn Laboratory, St. Thomas's Hospital, who will continue his investigation of (1) the relationship between ketosis and alkalosis; (2) the fate of the two terminal carbon atoms in the fatty acid chain during the hypothetical B-oxidation process; (3) the role of insulin in fat metabolism.

JAMES TUTIN IRVING, B.A.Cantab., Junior Demonstrator in the Sir William Dunn Institute of Biochemistry, Cambridge, who proposes to investigate in the Biochemical Department, Oxford, certain aspects of the metabolism of carbohydrates and allied compounds in the animal body.

JOHN GOWER STEPHENS, M.B., M.S., B.Sc.Sydney, now working in the Physiological Laboratory, Cambridge, who will continue his investigations of the functions of the spleen by the method of "window" observation.

BARNET WOOLF, B.A.Cantab., now working in the Sir William Dunn Institute of Biochemistry at Cambridge, who will undertake a comparison of some chemical reactions induced by resting bacteria with those induced by animal tissues.

a museum, which includes the microscope used by Sir Ronald Ross when, in 1897, he discovered the transmission of malaria through the anopheles mosquito to human beings. The method of breeding mosquitos for experimental purposes at the institute was also demonstrated. The attached hospital consists of twelve beds, two of them already occupied. It was stated that medical men home from the tropics have already taken advantage of the facilities offered in the laboratories, and have done research work on their own account at the institute. It is intended that reprints of papers relating to work in which the institute has had a share shall be circulated free to doctors abroad whose names are sent forward by subscribers and others, but the point is made that this is not to be a teaching centre, and that its purpose is to supplement, not to compete with, the existing schools of tropical medicine.

THE PUBLIC HEALTH ADMINISTRATION OF JUGO-SLAVIA.

DR. ALFRED GREENWOOD, county medical officer of Kent, was nominated nearly a year ago by the Ministry of Health as one of two representatives from England to visit Jugo-Slavia and study its public health on behalf of the League of Nations. He has now issued to his county council a report on what he saw there, and for readers here it will serve the same purpose as the memorandums for various other countries, including Germany, Austria, Hungary, and Czecho-Slovakia, already issued direct by the Health Section of the League's Secretariat. That regarding the Kingdom of the Serbs, Croats, and Slovenes was noticed briefly in our issue of October 24th, 1925 (p. 760), but Dr. Greenwood's report on the same area hardly overlaps it, and is worthy of separate attention. Instead of dealing in sequence with the many subjects now embraced in the wide sphere of public health, Dr. Greenwood has in very interesting fashion adopted the style of a narrative of his perambulations of the country, telling brightly and briefly what he saw of health organization, institutions, and activities wherever he went in his travels, which extended over a period of six weeks. French was the medium of communication between the different nationalities represented on the tour. The costs were borne by the Rockefeller Foundation. Jugo-Slavia includes what was formerly Serbia as its largest component part. After explaining the international exchanges in public health of which the expedition to Jugo-Slavia formed a part, Dr. Greenwood gives a short but clear and interesting history of the peoples covered by the geographical expression Jugo-Slavia, the "land of the South Slavs," descended from tribes settled in the North-Western Balkans after the fall of the Roman Empire, who were for long divided by physical barriers and by forms of religion. The present kingdom has an area of 96,000 square miles and a population of over twelve millions. Serbia lost a million men in the war, and had only 1,600 doctors at the end of it. Now there are 3,000 doctors, or 1 per 4,000 of population, so that there is still ample room for increase of medical personnel. Following such preliminary information Dr. Greenwood proceeds to tell the story of his tour, which he divides into three parts. In the course of it he gives a brief account of all the health institutions and activities of the country. In that account we do not propose to follow him, but may note that it embraces the passing of a National Health Insurance Act in 1922, under which dependants as well as workpeople are included. The report naturally contains many criticisms, but Dr. Greenwood rightly claims that these are constructive, not destructive, and he holds up to admiration "the excellent public health work which has been carried out in Jugo-Slavia in such a short time."

ROYAL MEDICO-PSYCHOLOGICAL ASSOCIATION.

THE eighty-fifth annual meeting of the Royal Medico-Psychological Association was held in London, at the British Medical Association House, from July 13th to 16th. The association during the year has had to mourn the death of its president, Sir Frederick Mott, and an eloquent tribute to him was paid by the acting president, Dr. M. J. NOLAN, who described Mott as one of the vital forces of the association. Dr. J. R. Lord, C.B.E., was elected president for 1926-27. Dr. C. Winckler of Utrecht and Dr. Adolf Meyer of Baltimore were elected honorary members, and Dr. Edwin Goodall of Cardiff was nominated Maudsley lecturer for next year.

Clinical Study of Mental Disorders.

Dr. J. R. LORD'S presidential address, on the clinical study of mental disorders, was really a volume, running to seventy-eight octavo pages, and will be published in full in the *Journal of Mental Science*. He began by dealing with the purposes of the association, and urged the re-establishment of a research committee whose functions would include the definition of psychological and psychiatric terms, and the collection, registration, and classification of clinical data. A sounder knowledge of the psychic processes underlying the disordered mind called not only for research work, but for properly organized and routine team work in the investigation and treatment of individual cases. Individual treatment alone, however much concentrated, would never cure mental disorders. Team work meant a concentration on the individual case by several doctors, one of whom should be foremost and responsible. He then reviewed the special departments of knowledge which psychiatry needed for its clinical purposes, the first of these being psychology. Here he considered that the psycho-analytical conceptions of Freud and his school, and their modification by Adler and others, had been a distinct gain to psychiatry, especially in the sphere of psycho-pathology, giving it a new vigour and quickening the interest of the profession and of the community generally in psychological matters.

The President next considered the more important of the psychological approaches to the problems which concern clinical psychiatry, showing that they were all of service in one relation or another, after which he went on to speak of the physiological and biochemical approaches in the same way. In the province of pathology and psycho-pathology two principal schools had grown up—namely, the physiogenic and the psychogenic. The wards and laboratories of the mental clinics and hospitals afforded one ground at any rate for a closer approximation of the work of both. The progress of clinical psychiatry had been held up by dissociating the mind from the body, or the nervous system from the body, and by neglecting sociological considerations. The aim of such team work as he advocated was to supply the psychiatrist responsible for the diagnosis and treatment of a case with a complete clinical picture, taking advantage of every avenue of approach, physiological and psychological alike. Clinical psychiatry, he said, could not take up an *ex parte* attitude in respect of the factors operating in the case of mental disorder, and must, as far as possible, dissociate itself from leaning towards any one viewpoint, or one of the main objects of team work would be defeated. Clinical psychiatry had for too long suffered from such one-sided investigations, culminating in the accumulation of much unbalanced knowledge about mental disorders and diseases.

Dr. Lord then passed on to examine team work in its more practical aspects, and said that to establish or further develop team work in public mental hospitals would mean, in the first place, a reorganization of the work of the medical staff, and, in the second, an addition to it of specialists and experts in various other branches of medicine, and, where necessary, those of some special branches of clinical psychology. As little as possible of the time of the skilled psychiatrist should be spent on the chronic insane. Much more of the supervision and general care of this class of patient should be entrusted to nurses and skilled lay help. The house staff of a mental hospital should consist of psychiatrical specialists and of

her from attending women in childbirth in any other capacity. Another certified midwife appeared in answer to charges of being guilty of negligence, breaches of the rules, and failure to notify to the local authority contact with a person suffering from puerperal fever, thereby endangering the lives of her other patients. Miss Jane C. Barker, assistant inspector of midwives, Glasgow, appeared in support of the charges. The Board found the charges to be proved, and resolved that, in view of the technical character of the offence, the midwife be severely censured and admonished to adhere strictly to the rules of the Board in future, and further, that a report be obtained from the local supervising authority on the conduct of her practice during the next three months. At the ordinary meeting of the Board held later, Sir Archibald Buchan-Hepburn, Bt., presented the report of the Finance Committee, which, on his motion, was approved.

Ireland.

County Wexford Medical Practitioners.

At a meeting of the medical practitioners of County Wexford, at Enniscorthy, a report of the joint meeting of the medical practitioners of the counties of Wicklow and Wexford, which was held at Woodenbridge Hotel, Vale of Avoca, on June 17th, 1925, was read by the honorary secretary, and it was decided to stand by the resolution, as to the refusal to fill up the new Registration Quarterly Return Form, adopted at that meeting, and previously passed by the Irish Medical Committee on April 6th, 1925. A letter was read from Dr. Hennessy, Irish Medical Secretary, in which he gave an account of the proceedings in connexion with the meetings of the Committee of Inquiry into National Health Insurance and the Medical Services, of which Dr. R. J. Rowlette is a member, and of the Poor Law Commission, of which he (Dr. Hennessy) is a member. Dr. Hennessy also drew attention to the position of the funds out of which the remuneration for medical certification was paid, and urged that the County Wexford medical practitioners should take steps to organize to protect their interests in respect of medical certification, among other matters. The question of the organization of the profession in the Saorstat was considered, and the following resolution, proposed by Dr. Bowen, and seconded by Dr. Lawlor, was passed:

> That in view of the many pressing and important questions that are likely to face the medical profession in Saorstat Eireann in the near future, we consider that the enrolment of all its members in one large association would add enormously to its strength and prestige, and we request the Irish Medical Committee to take such steps as it may deem necessary and expedient to have a scheme formulated which would amalgamate existing associations, rope in those who do not belong to any association, and give renewed life to medical politics in Ireland.

A communication was received from the County Wexford branch of the Irish Local Government Officials Union inquiring if it would be possible to effect an amalgamation between it and the Medical Association; after discussion, it was decided that it was not advisable to have a union of the two bodies on account of the varied interests involved; but in view of the possibility of the County Board of Health taking action towards the reduction of salaries it was agreed to ask the local branch of the Union to consult with the doctors in joint meeting.

England and Wales.

The Milk Supply.

The Milk and Dairies Order, 1926, was issued by the Ministry of Health on July 12th. It revokes the Dairies, Cowsheds, and Milkshops Orders of 1885, 1886, and 1899, so far as they relate to England and Wales, and all Regulations made thereunder by local authorities. The main provisions of those Orders and Regulations are replaced by provisions similar in general purpose, but modified in accordance with the development of modern hygienic knowledge so as to lay greater stress on cleanliness in all operations connected with the production and handling of milk (including the care of the cow) than upon the structure of buildings. The most important of the new provisions are those relating to the health and inspection of cattle, and to the handling, conveyance, and distribution of milk. The Ministry has also issued Public Health (Imported Milk) Regulations, 1926. These require the registration by port and riparian sanitary authorities of persons receiving imported milk, and give power to the registering authorities, similar to that conferred by Section 2 of the Milk and Dairies (Amendment) Act, 1922, in regard to retailers, to refuse registration or to remove a person from the register if the requirements of the Regulations in regard to the condition of the milk are not complied with. These requirements—namely, freedom from tubercle bacilli and a limitation of the bacterial content—are, as the Minister is advised, such as can suitably be applied to milk which has been submitted to a pasteurizing or other heating process which is a commercial necessity for imported milk. The Milk and Dairies Order, 1926, will come into operation on October 1st next, and the Public Health (Imported Milk) Regulations, 1926, on January 1st, 1927.

Presentations to Dorset Doctors.

On June 24th Dr. F. Rodier Heath of Weymouth and Dr. P. W. MacDonald of Radipole were each presented with a silver salver at a dinner held at the Town Hall, Dorchester, in connexion with the West Dorset Division of the British Medical Association and the Dorset Local Medical and Panel Committee. The chair was taken by Dr. E. Kaye Le Fleming of Wimborne, and Dr. G. C. Anderson, Deputy Medical Secretary, British Medical Association, represented the headquarters of the Association. Dr. MacDonald, who had been medical superintendent of the Dorset County Asylum, was in the past president of the Dorset and West Hants Branch of the British Medical Association and chairman of the West Dorset Division. Dr. O. Rees, chairman of the West Dorset Division, in proposing his health, referred to the active part Dr. MacDonald had taken in the difficult time at the commencement of the Insurance Act. As justice of the peace he had also served the county, and since his retirement he had devoted his energies to medico-political work. Dr. Le Fleming described the valuable service of Dr. Rodier Heath as secretary of the Panel Committee from 1918 to 1925; he had been particularly prominent in the task of overcoming difficulties between medical practitioners and the State authorities. The toast of "The British Medical Association" was proposed by Dr. T. MacCarthy, who gave several instances of the way in which the Association supported the interests of doctors which did not conflict with the larger interests of the general public. Dr. Anderson, in replying, referred to the Royal Commission into the national insurance system, and said he believed that the Association had persuaded the Ministry of Health to revert to the old transfer of practice system, with a month instead of a fortnight. He described also the recent scientific activities which had been fostered by the Association. The dinner was arranged by Dr. J. A. Pridham of Broadwey, who was highly complimented on its success.

Further Memorial to the late Dr. Mary Sturge.

Two wards in the Taylor Memorial Home of Rest in Birmingham have been set aside to the memory of Dr. Mary Sturge, who died on March 14th, 1925. These wards will be reserved for poor gentlewomen suffering from incurable malignant disease and unable to afford nursing home fees. It will be remembered that during her active life Dr. Sturge initiated the scheme for the erection of a nurses' home in this institution, which was opened on April 1st, 1925, and the Medical Women's Federation decided last year also to raise a fund to endow a bed in her name. A sum of £210 was collected by the Federa-

Scotland.

NATIONAL HEALTH INSURANCE IN SCOTLAND.

AT the annual meeting of the Scottish Conference of Friendly and Approved Societies held in Edinburgh on June 26th, Sir James Leishman of the Scottish Board of Health stated that the second valuation of the Scottish societies showed a gross surplus of over £4,000,000. There would, he said, probably be at least £2,500,000 available for distribution, which was two and a half times the amount available after the last valuation in 1918. He said that the year 1925 had been a fair year from the point of view of the health of the workers in Scotland, especially considering the long-continued depression in trade, the loss of contributions, and other adverse facts. He pointed out that representations had been received from societies regarding the present great number of claims, especially in certain areas. In connexion with some societies, the claims had increased recently by 50 to 100 per cent. above the claims usual at this time of year. He did not wish to go into the merits or demerits of industrial disputes, but he thought there was an intimate connexion with the general strike and the mining stoppage. Some societies said they were fairly sure that there was a large number of doubtful claims lodged for sickness and disablement benefit. The commission was sending out a circular to all medical practitioners calling attention to this alleged state of affairs and to the fact that the only good claim for sickness or disablement benefit was the claim of the person being unable to work. The great majority of societies probably looked with considerable confidence on the certificate of a medical practitioner as to a man's fitness for work, and he hoped that this would not be destroyed. Turning to the Royal Commission's report, Sir James Leishman said the chief recommendation was for an extended and fuller medical system. This should include all the specialist advice and treatment and all the institutional treatment necessary. The report by the committee on the hospital services of Scotland had shown a great deficiency in the accommodation and equipment of the voluntary hospitals. It was a serious matter that in the six large hospitals of the Scottish cities there had been no fewer than 5,864 people on the waiting list. He hoped that provision for the suffering would be practically the first charge on the generosity of all who could help. With regard to the distribution of the £2,500,000 it must be remembered that when spread over 1,700,000 people it came to only about 1¼d. a week. He hoped that people would not get the idea that there was money to be given away to the first person who put out a big hand to get it.

ST. ANDREWS ALUMNUS ASSOCIATION.

At a meeting of the General Council of the University of St. Andrews on June 26th Principal Irvine submitted the report of a committee appointed to consider the proposed establishment of an alumnus association in connexion with the university. It was decided to send a circular to all former students of the university inviting them to become members of the association, and to invite St. Andrews University associations throughout the country to become affiliated to the central association at St. Andrews.

CHAIR OF NATURAL HISTORY AT DUNDEE.

At a meeting of the University Court of the University of St. Andrews on June 25th the vacant chair of natural history in University College, Dundee, was filled by the appointment of Mr. Alexander David Peacock, M.Sc.Dunelm., F.R.S.Ed., senior lecturer in zoology at Armstrong College, Newcastle-on-Tyne. Professor Peacock has done a large amount of research connected especially with entomology, and was previously entomologist in the Government Agricultural Department of Southern Nigeria. During military service from 1914 to 1919 he was engaged particularly in entomological research and instruction connected with the medical and sanitary services under the War Office.

STANDARD OF INCAPACITY FOR WORK IN SCOTLAND.

The Scottish Board of Health has issued a circular to all insurance practitioners in Scotland relating to the certification of incapacity for work. The circular states that the Board had recently had occasion to consider the position arising from a sudden and very substantial increase in the certification of claims for sickness and disablement benefit, mainly in the industrial areas. So far as the Board had been able to discover, the apparent access of sickness indicated by the increased issue of certificates of incapacity for work was not attributable to any epidemic or outbreak of exceptional sickness. It appeared from the re-examination of a large number of cases by the district medical officers that the seeming increase was due to a less stringent view being taken by practitioners of the conditions for which sickness and disablement benefit was given, and the Board would impress upon insurance practitioners the fact that the statutory condition for payment of sickness or disablement benefit under the National Health Insurance Act is that the insured person shall be incapable of work through some specific disease or bodily or mental disablement. The Scottish Miners' Federation Approved Society has also issued a circular on the subject to their district agencies in which the situation is characterized as "an utter collapse from the normal standard of certification." It is also stated that the society's experience in 1926 corresponds to that in the industrial dispute in 1921.

PURE MILK IN EDINBURGH.

A lecture on "A pure milk supply" was delivered by Dr. W. Robertson, medical officer of health for Edinburgh, in the Synod Hall, Edinburgh, on July 2nd. Preventive medicine would, he said, receive a strong impetus when milk free from disease-producing micro-organisms was generally available. Milk containing germs of tuberculosis was a menace to the very young and a risky food for the delicate. In course of time, he believed that those who had been strenuously advocating the production of tubercle-free milk would reap the reward of their efforts by witnessing the decline in the incidence of tuberculosis, more especially of bones, glands, and serous membranes. Powers now existed to deal with the diseased cow and were being employed by the Veterinary Department. By slow degrees the demand for tubercle-free milk in Edinburgh had increased until now several hundreds of gallons were sold daily. This meant that persons in the dairy trade were fast realizing the importance of a great problem, and it also proved that many consumers would pay an enhanced price for a reliable food. Those who had spent time and large sums of money in collecting tubercle-free herds must earn the gratitude of a public health authority. No longer did they stress such matters as ornamental byres with tiled interiors and elaborate fittings; but, rather, importance was attached to clean cows, clean hands, and cleanly methods, with daily exercise for the animals. In another direction Edinburgh had led the way, and this was in the production of pasteurized milk, of which thousands of gallons were now being sold every week. Dr. Robertson believed that in the course of a year or so the dairies in the city would be selling little else than tubercle-free milk from tested cows, or milk that had been treated by pasteurization. During the past forty years there had been nine serious epidemics of scarlet fever in the city caused by infected milk, which had cost the city enormous sums of money. What was now required was a far more universal use of milk by young and old people. It was a valuable food and relatively cheaper than many other articles of diet.

CENTRAL MIDWIVES BOARD FOR SCOTLAND.

At a meeting of the Central Midwives Board for Scotland for the hearing of penal cases, Dr. James Haig Ferguson in the chair, it was reported that a certified midwife had been found guilty of procuring abortion and sentenced to penal servitude, and it was resolved that the secretary be directed to remove her name from the roll of midwives and to cancel her certificate, and in addition thereto, in terms of Section 8 of the Midwives (Scotland) Act, 1915, to prohibit

sickness amongst the nursing and domestic staffs of the Birmingham City Hospitals.

Active immunity against scarlet fever by means of multiple skin test doses of Dick toxin is also being produced by us, but sufficient time has not yet elapsed to speak with confidence as to its duration.—I am, etc.,

E. H. R. HARRIES,
Medical Superintendent, Birmingham City Hospitals.

July 7th.

OBSTETRICS IN GENERAL PRACTICE.

SIR,—The distinguished author of *Operative Midwifery* deserves more consideration than would seem his due from the tone of some of his critics. While not agreeing with him in his suggestion that all serious midwifery work should be in the hands of specialists and removed from those of men in general practice, one sees that it is a reasonable proposition. It should be met, not with rudeness, but with that calm nonchalance with which, for instance, the sister proposition would be met by men of his position: the suggestion, namely, that as midwifery is essentially a woman's question, and as plenty of skilled women specialists would be available, the practice of midwifery should be carried on exclusively by women and that male teachers should be superseded. That in itself is also a reasonable proposition, and it would be pleasant to watch the calmness with which it would be received by the present teachers of obstetrics.

My own quarrel with Dr. Munro Kerr would be from another point of view. His title is alluring, and on reading his paper up to a certain point one's hopes were raised that here at last we were to have some light on the real point which, to my mind, is now at issue—the actual state of the woman herself, the changes brought about in pregnancy. Surely the day is come when we can no longer look on the pregnant as just an ordinary healthy woman who is going to have a baby. The biochemists and the workers on endocrine activity have altered that. She is fundamentally changed, and for the worse so far as her defences against disease in general and sepsis in particular are concerned. Such is the proper objective of Preventive Medicine as applied to Obstetrics, and Dr. Munro Kerr has advanced only a little way along the path towards it.

Another point I should wish to make. Everyone will agree that an obstetric operation should be dealt with as a major surgical operation. But, if so, it comes under the ordinary rules of surgery. Now one of the principal axioms in surgery is that, having made up your mind that operation is indicated, operate at once. My old chief Joseph Bell used always to say, "Get the patient off the table and into bed as quickly as possible," and the obstetrician should bear this in mind. If you work under strict antiseptic precautions your patient runs far more risk from delay and consequent exhaustion than from sepsis.

With regard to Dr. Munro Kerr's not original but interesting suggestion that another battalion should be added to the already bloated armaments of officialdom, may I suggest that the opinion of the "balancing elector," the poor woman herself, might be considered? She has her own doctor, who has brought all her children and perhaps herself into the world. Is it to be supposed for a moment that she would embrace with joy the idea of exchanging him for someone sent down from the nearest city by the medical officer of health? I should like to hear some of them on the point.—I am, etc.,

Cupar, Fife, June 30th. C. E. DOUGLAS.

THE ROYAL MEDICAL BENEVOLENT FUND.

SIR,—I regret that absence on holiday has prevented an earlier reply to Sir Charters Symonds's letter (June 12th, p. 997). I am in complete accord with him as to the undesirability of provoking controversy on this matter; but I marvel that it has not occurred to him that the publication of such a letter, with its many debatable points, is the surest method of bringing about that which he desires to avoid.

My speech to which he takes exception was delivered nearly a year ago in an endeavour to persuade the Representative Body to set up a separate British Medical Association Medical Benevolent Fund, which should have as its object the making of adequate provision for those of our profession and their dependants who had fallen on evil times—a task which the Royal Medical Benevolent Fund in its own annual report admitted it had failed, so far, to accomplish. The Representative Body in its wisdom decided against my policy, and instead set up a British Medical Association Charities Trust Fund Committee, whose duty it is to stimulate the profession to subscribe (through this committee) to existing medical benevolent funds, of which the Royal Medical Benevolent Fund is one of the most important.

As a loyal member of the British Medical Association I accepted that decision, and as a member of that Charities Trust Fund Committee and its first chairman I have used my best endeavours to carry out the wish of the Representative Body.

It is obvious, therefore, that to criticize (or even justify previous criticisms of) a fund for which it is the duty of my committee to appeal would create an impossible position which I could not attempt to justify.

I prefer, therefore, to bear any misconstruction which may be put upon my omission to reply in detail to Sir Charters Symonds's various points, rather than do anything to damp enthusiasm for an object in which I am very keenly interested.

I appeal earnestly to the profession to allow no word which I uttered in the totally different circumstances of July, 1925, to hinder them from most generously supporting the British Medical Association Charities Trust Fund, in order that our less fortunate brethren may be relieved from the distress and penury in which so many of them are at the present time involved.—I am, etc.,

JOHN F. WALKER,
Southend-on-Sea, July 7th. Chairman, Charities Trust Committee.

FUNCTIONAL ALBUMINURIA IN ATHLETES.

SIR,—The following case should be of some interest to those of us who remember how much concern any form of albuminuria produced forty years ago. It was, as I then wrote, "the most marked case of functional albuminuria I have met with, one in whose urine I have often seen as much as one-half of the column in the test tube to consist of solid albumin. This is a case of a young gentleman, now aged 23, whom I have had under observation for six years, and who, though the albuminuria is as marked as ever, has fairly good health which has not deteriorated during that time." He had been a patient of the late Professor Sir Thomas Grainger Stewart of Edinburgh, who had kept him on a purely milk diet for thirteen months without in the least influencing the albuminuria.

The quotation is from a contribution made to the *Lancet* (December 10th, 1887). Its title was "Albuminuria in the apparently healthy." In it I reported the results of the examination of the urine of 461 persons. Of these, 369 were boys; of them 20.8 per cent. were albuminurics. By a series of tests I proved that the albuminuria was caused by rising from the reclining to the standing posture. I therefore called the condition "postural albuminuria." Sixty-four of the boys played wind instruments; of them 59.4 per cent. were albuminurics. This did not appear to controvert, but rather helped to substantiate, the theory then advanced that the temporary albuminuria was produced by a temporary paresis of the renal vessels.

The immediate point of interest is this: I hear occasionally from the "young gentleman" above mentioned. He is now 62 years of age and in good health. The albuminuria ceased entirely only a few years ago. Is this because the walls of the renal vessels had in the meantime changed their character?—I am, etc.,

ALEX. W. STIRLING, M.D.Ed., D.P.H.Eng., F.A.C.S.

Atlanta, Ga., May 19th.

SIR,—I am encouraged to contribute some recent observations in relation to two athletic feats which for severity could hardly be surpassed.

In a successful attempt upon the world's record, G. C. *walked* a few yards short of 8¼ miles in the hour. Urine

tion and presented, on July 2nd, at the annual meeting of the Taylor Memorial Home, by Miss Frances Ivens, president of the National Federation of Medical Women, and Dr. Lena Walker, president of the Birmingham and Midland Medical Women's Association. The annual report of the home showed that, during 1925, thirty-seven patients had been admitted, and twenty-three deaths had occurred in it. An anonymous donor had presented £1,000 for the endowment of a bed, and the Birmingham Hospital Saturday Fund Committee had given £100. The home has been placed on the list of institutions which share in the distribution of the Hospital Sunday Fund.

STRETFORD HOSPITAL.

A hospital for maternity cases was opened on July 10th at Stretford, near Manchester. Dr. T. Wheeler Hart, county director of the East Lancashire branch of the Red Cross Society, who presided over the ceremony, said that this, the first hospital to be erected in Stretford, was so particularly well equipped as to rival any of the kind in the country. Its building had been rendered possible through the generosity of Sir Thomas Robinson, M.P., who had advanced £2,000 free of interest, and by the East Lancashire Red Cross Society, which had provided another loan of £1,000. It was recognized that the ideal hospital provided accommodation for both men and women suffering from any illness, but such a complete scheme was not yet possible in Stretford. The trustees felt that the first consideration was the provision of accommodation for maternity cases, and they hoped to obtain later on an annexe for men. Sir Thomas Robinson explained that if an adequate response to the appeal was made by the inhabitants of Stretford the trustees would be able to proceed with the second section of the work. The annual upkeep of the hospital at present would require an income of £1,000 a year.

THE WARNEFORD HOSPITAL, OXFORD.

In commemoration of the centenary of the Warneford Mental Hospital, on Headington Hill, Oxford, the medical superintendent, Dr. Alexander W. Neill, has compiled a brief history of the institution. It appears that in 1813 the governors of the Radcliffe Infirmary, urged thereto by Dr. Cooke, president of Corpus, decided to establish an asylum for the reception and relief of insane patients. Weekly payments, according to their means, were to be made for the patients, who, preferably, should not be those who had received parish relief. Prolonged negotiations with the Oxfordshire magistrates prevented effect being given to these decisions until 1826, by which time £20,000 had been raised, and an asylum for thirty patients was erected on ten acres of land purchased at Headington. It was opened on July 10th, 1826, and was known as "The Oxford Lunatic Asylum." It supplied the needs of persons for whom the law provided no gratuitous assistance, but who had insufficient means for obtaining help. In 1828 the name of the institution was changed to "The Radcliffe Asylum," in recognition of the large contributions received from the Radcliffe trustees. Later on the Rev. Dr. S. W. Warneford, rector of Bourton-on-the-Hill, began to bestow gifts on the asylum, and in forty-two years his donations exceeded £70,000. In 1843 Dr. Warneford's gifts to and interest in the asylum had already become so great that as a permanent memorial the governors changed the name to "The Warneford Asylum." In 1849 Dr. Warneford obtained the grant of a Royal Charter. His friend the Rev. Vaughan Thomas helped in developing the charitable side of the institution, by means of which "a few poor curables of the county" could be admitted and maintained either gratuitously or at reduced prices. The hospital has been gradually developed and additional land has been purchased until the Warneford Asylum now accommodates 130 patients on an estate of 120 acres. The centenary was celebrated last Saturday by a garden party, which was attended by the president of the hospital (Lord Saye and Sele), the Mayor of Oxford, and many residents there, and many members of the University and of the medical profession.

Correspondence.

THE PROPHYLACTIC VALUE OF SCARLET FEVER ANTITOXIN.

SIR,—In a letter appearing on page 1011 of the JOURNAL of June 12th Dr. J. H. Garrett takes exception to the deductions in a paper with the above title which was contributed by two of my medical officers and myself to your issue of May 22nd.

In this paper an endeavour was made to give some indication to practitioners "in charge of children's institutions" as to the degree and duration of protection afforded to susceptible children by the use of prophylactic doses of scarlet fever antitoxin. The basis upon which susceptibility was assessed was a skin test dose of Dick toxin. There is abundant evidence to show that the Dick test is a reliable index of susceptibility or otherwise to the toxin produced by the *Streptococcus scarlatinae*.

The degree of infectivity of scarlet fever was not discussed in the paper. It is well known that scarlet fever is a disease of relatively low infectivity amongst the general population. It is also well known that patients suffering from diphtheria are peculiarly prone to contract scarlet fever, and vice versa. One reason for this is that children who are susceptible to diphtheria are commonly also susceptible to scarlet fever. The Dick-positive and Schick-positive curves in the earlier age groups of which such ward populations are chiefly composed run parallel.

During the last six years in one of the hospitals under my charge many hundreds of cases of scarlet fever have been nursed with safety in the same ward with other infective and non-infective diseases under the conditions of "bed isolation." Spread has only occurred on two occasions, both as the result of proved contravention of rules. But a diphtheria ward nursed on ordinary lines is a different matter.

In my opinion the production of passive immunity amongst non-immunes, even although this immunity is of limited duration, is a great advance on the old method of dealing with ward populations exposed to scarlet fever. This old method was practically based on the trust that the disease might not "extend to any considerable number of contacts or otherwise . . . show urgent need for control by an extraordinary method." Why take any risks with a ward population of susceptible children when a method exists by which these risks may be eliminated for an appreciable period?

Our paper dealt with institutional conditions. In the JOURNAL of January 30th appeared an apposite contribution from Dr. David Kirkhope bearing the same title as our paper. He, using a scarlet fever antitoxin prepared at the Lister Institute, inoculated 140 contacts (with 41 scarlatinal patients), and in addition 131 children "derived from school classes where scarlet fever cases were recurring with unhappy frequency. . . . From the time of the inoculations no further cases occurred in the school *for a fortnight and all the inoculated escaped infection*." (Italics mine.) Dr. Kirkhope employed an earlier serum than either of those used by us. He found that the minimum protective dose of this serum was 5 c.cm., and that such a dose, he believed, protected for fourteen days. Dr. Kirkhope's estimates were based on the actual contraction of scarlet fever—after the lapse of the period of immunity—by contacts and exposed children (without reference to the Dick test). Some months, therefore, before our paper appeared he had arrived by a different route at substantially the same conclusion as ourselves.

But, after all, the production of temporary passive immunity, whether applied to the general population or to special populations under institutional conditions, although a great advance upon the "expectant" method, can only be regarded as an exceptional means of protection under certain conditions. The ideal is, of course, the production of lasting active immunity.

The production of active immunity against diphtheria is now a well established process, and through its agency diphtheria has, for example, been eliminated as a cause of

gram to be taken, while in certain forms of sinusitis it remains in the antrum for several days.

I can certainly endorse Dr. McKelvie's opinion that the method is of value.—I am, etc.,

Birmingham, July 12th. A. LOWNDES YATES.

COAL AND HYGIENE.

SIR,—At first sight the relationship between medicine and coal may not be very apparent, but looked at more closely the study of coal and its constituents becomes interesting, especially from the point of view of preventive medicine. An average sample of British bituminous coal yields by carbonization 7.5 per cent. of tar, 2½ gallons of refined benzol per ton, about 3,500 cubic feet per ton of a rich gas having a calorific value of 800 British thermal units, and a 75 per cent. residue of a superior form of coke.

In the near future the tar, benzol, and gas will be first extracted from the raw coal, and the residue, which is a form of coke, produced by the low-temperature carbonization process, very superior in quality to the ordinary gas coke now supplied, will be used for heating purposes, domestic fires, etc. As a result the pollution of the air of our great cities by smoke, tar, ammonia, etc., will almost cease, and the health and well-being of the inhabitants will be greatly improved. It behoves all medical men, but more particularly medical officers of health, to urge upon local authorities the adoption of means to bring about this desired result. Incidentally, it may be stated that the value of coal is much increased when the raw coal is treated as stated above.—I am, etc.,

Sheffield, June 25th. E. B. HAZLETON, M.D., M.Ch.

ST. KILDA.

SIR,—Your leader on St. Kilda to me is most interesting, as I visited the island in 1886, and on the run out picked up two women who had been on the mainland for their confinements; from them I obtained information. The cause of the infantile mortality was doubtful. Some considered it was the irritation of the fulmar oil; but these women and others considered it was due to a local ointment applied to the navel cord. I obtained some fulmar oil, and used it at home on the navels of kittens, puppies, and rabbits, with negative results. I was unable to get any of the local ointment—it seemed a secret; but as I learned that the children died from sloughing round the cord area I considered that the ointment might contain arsenic; but I never had any opportunity of ascertaining whether there was any arsenic in the soil.

They were a sturdy people, the men idle, the women doing nearly all the work. A medical man had not been there for some years; nearly all the young women wished to get to the mainland. We brought back a man with malignant rectal trouble; he died in Glasgow.

They make a most wonderful cloth in St. Kilda. I bought some for a shooting suit, and it lasted for years, but smelt of fulmar. They possess a pack of dogs which scratch out the birds' eggs, and have sheep with four horns, from which they pluck the wool instead of shearing. This collecting of the wool seems an annual rite or feast; the elders take the maidens from isle to isle. There was great religious dissatisfaction caused by the minister, who spun out the services to some eight hours each Sunday; he seemed ruled by his housekeeper. The chapel bell was an old Armada one.—I am, etc.,

Folkestone, July 12th. P. BROOME GILES.

The Services.

INDIAN MEDICAL SERVICE.

THE revised terms and conditions of service of medical officers in the Royal Navy, Royal Air Force, and Royal Army Medical Corps, issued in accordance with recommendations of the Inter-departmental Committee on the Medical Branches of the Fighting Services, were published in our issue of July 3rd (p. 41).

Revised regulations for the appointment of candidates to commissions in the Indian Medical Service have now been issued by the India Office, together with a separate notice on the subject of special recruitment. As reorganization of the medical services in India is now under consideration, candidates are notified that these regulations are subject to amendment accordingly.

The notice headed "Special Recruitment 1926" appears to differ little from the advertisement by the India Office which appeared in the advertising pages of the BRITISH MEDICAL JOURNAL in March, 1925, except in regard to oversea allowances and gratuities. An increase of 50 rupees per mensem in the oversea allowance has been granted to all officers after six years' service, except in the case of captains in their twelfth year of service, who receive an increase of 100 rupees per mensem. As regards gratuities, £1,000 will now be given after six instead of five years' service as heretofore, and there is a new provision for a gratuity of £2,500 after twelve years' service.

NORTH PERSIAN FORCES MEMORIAL MEDAL.

THE War Office announces that Dr. W. Corner, O.B.E., Iraq Health Service, has been awarded the North Persian Forces Memorial Medal for the year 1925, for his paper "Malaria in the Kirkuk Division of Northern Mesopotamia during 1923," published in the *Transactions* of the Royal Society of Tropical Medicine and Hygiene, 1925, vol. 19, Nos. 1 and 2, pp. 41-69.

This is the third award of the medal, which, in accordance with the terms of the trust deed of the memorial fund, is awarded annually for the best paper on tropical medicine or hygiene published in any journal during the preceding twelve months by any medical officer of under twelve years' service, of the Royal Navy, Royal Army Medical Corps, Royal Air Force, Indian Medical Service, or of the Colonial Medical Service, provided the memorial committee considers that any of the papers published has attained a standard of merit justifying an award.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE following candidates have been approved at the examinations indicated:

FINAL B.M., B.CH.—C. P. Blacker, J. C. K. Chilcott, A. V. Clemmey, G. H. Crisp, C. R. Croft, H. E. Cuthbert, J. N. C. Ford, E. L. Fothergill, K. A. Hamilton, W. H. Hudson, T. C. Hunt, J. H. Kennedy, D. Lurie, P. Morton, D. I. Rees, F. J. Sale, J. de la M. Savage, T. H. Sellors, R. W. A. Simmons, G. P. Thorold, O. R. Tisdall, W. R. Wood, Margaret N. Jackson, Constance I. Pattullo, Rosa S. Wordsworth. (*Forensic Medicine and Hygiene*): H. W. Allen, C. Charleson, P. F. Cluver, G. H. Crisp, H. E. Cuthbert, W. N. Dickenson, C. L. Harding, R. C. Hodges, W. H. Hudson, J. H. Kennedy, D. Lurie, P. C. Mallam, P. Morton, R. Oddie, J. S. Rake, T. H. Sellors, Rosaleen L. Graves, Olivia H. Lister. (*Pathology*): H. W. Allen, J. A. Brown, E. N. Butler, H. E. Cuthbert, J. A. Eddy, J. H. Ferguson, W. B. Fiddian-Green, C. L. Harding, R. E. Havard, R. A. Haythornthwaite, R. C. Hodges, G. L. M. Inkster, A. P. Kingsley, R. G. Macbeth, H. E. Mansell, A. E. Porritt, J. W. Pugh, J. S. Rake, C. R. Salkeld, E. M. Wright, Olivia H. Lister, Nancy B. Ockenden. (*Materia Medica*): W. H. Brown, E. N. Butler, J. A. Eddy, W. B. Fiddian-Green, H. P. Gilding, C. R. Greene, A. Guirdham, R. S. Harrison, E. Harvey, F. Hawking, K. N. Irvine, R. G. Macbeth, Q. St.L. Myles, R. L. P. Peregrine, A. E. Porritt, L. T. Ride, E. H. Rink, W. J. Walter, R. C. W. Whitling, Ruth Sandeman, Joyce Wright.

UNIVERSITY OF LONDON.

The Bloomsbury Site.

THE Senate on June 23rd authorized the Co-ordination and Developments Committee to approach the Duke of Bedford to ascertain whether and on what terms he would be prepared to negotiate the sale or lease of the land in Malet Street now occupied by the University, or of other land for the institutions connected with the University now on the Bloomsbury site.

Committees.

Sir Holburt Waring, M.S., F.R.C.S., has been appointed chairman of the Finance Committee, and Sir Wilmot Herringham, K.C.M.G., M.D., chairman of the Committee of Members of the Senate.

Brown Animal Sanatory Institution.

The annual report of the Superintendent of the Brown Animal Sanatory Institution for 1925 records that the number of animals brought to the institution during the year was 3,837. The five lectures required to be given under the will of the late Mr. Brown were delivered by the Superintendent at the Royal College of Surgeons of England in December, 1925, and dealt with the physiological and pathological activities and functions of bacteria. Experiments by several workers of other institutions had been carried out in the laboratories on subjects including human, bovine, and avian tubercle bacilli and gall-stone experiments. The Superintendent had continued his work on the ultramicroscopic virus for the Medical Research Council. He had also worked on the transmissible bacterial lysin and had come to the conclusion that the lysin might act on dead bacteria if living ones of the same variety were present. The report states that Dr. Gratia of the Pasteur Institute, Brussels, having carried out similar experiments, believed that the dead bacteria were autolysed by the living ones, but the result of experiments at the institution did not support the view that autolysins were entirely the cause of the dead bacteria being dissolved. Investigations in several other

passed half an hour after the completion of the exercise showed a faint cloud of albumin, subsequently estimated at 0.1 per cent. (Aufrecht), very numerous oxalate crystals, hyaline and granular casts, but no blood. The urine passed six hours later exhibited a faint trace of albumin, very few granular casts, oxalate crystals, and no blood. That passed twelve hours later was free from albumin; oxalate crystals were still present.

The severity of the effort may to some extent be measured by the observation that G. C.—naturally in the best training—lost 4½ lb. during its performance. His temperature per rectum ten minutes after he had finished was 105.6° F. The shade temperature at the time was high (76°), but the air was dry and a light breeze encouraged free perspiration. The *runner*, a man of 42, an experienced athlete, who accompanied him throughout, lost 1 lb. in weight. No trace of albumin could be identified in any urine he subsequently passed.

It is worth noting that G. C., who is over 51 years of age, has a resting cardiac rate of only 41, and a maximum systolic blood pressure of 125 mm.

Mr. D. G. L., an Olympic champion, aged 23½, in the course of the greatest effort of his distinguished career ran half a mile inside world's record time. The urine he passed four hours afterward—the first available—contained an almost imperceptible trace of albumin. This albumin "was precipitated in the cold by the addition of dilute acetic acid and had the characters of the orthostatic albumin of adolescent urines." Microscopy of the centrifugalized deposit contained oxalate crystals, but no casts or blood.

It is at least an interesting coincidence that oxalate crystals were present in all the specimens examined. In the case of Mr. L. no opportunity was afforded for further investigation; in G. C.'s case oxalates were found twenty-two hours after the exercise. No dietetic peculiarities could be correlated with their occurrence, but if, as is sometimes urged, oxaluria is dependent upon some nervous association, there was certainly abundant provocation in both instances.

I acknowledge most gratefully my indebtedness to Mr. Herbert Perkins, pathologist to the Hampstead General and Children's Hospitals, for the interest he took in the proceedings, and the time and trouble he generously devoted to the investigation.—I am, etc.,

London, W.1, July 10th. ADOLPHE ABRAHAMS.

"ATOPHAN DERIVATIVES IN RHEUMATISM."

SIR,—Dr. Langdon Brown and Dr. Geoffrey Evans have issued a timely warning about the use of atophan and its derivatives. I can illustrate their letters by the following case.

An elderly lady went to Germany for treatment for rheumatism. While there she was given five intravenous injections of 5 c.cm. of Messrs. Schering's atophanyl, only one or two days being allowed between the injections. On her return she produced a box containing five ampoules of atophanyl, which she had been directed to ask me to administer. Being somewhat fearful of intravenous medication, and also seeing that her anatomy was not kindly disposed towards that line of drug administration, I proceeded cautiously. I gave doses of 2 c.cm., then 3, 4, and 4.5 c.cm.—four injections at intervals of about four days. After the last one she complained of indigestion, and within another five days jaundice set in. This is now a month ago, and it is only during the last few days that we can say she is really beginning to improve. Dr. Canti and Dr. Archer kindly investigated the blood and the evacuations for me, and they reported that "the jaundice is of the so-called haemolytic type." The colour in this case interested me, as it was more of a deep chrome yellow than the usual greenish yellow of catarrhal jaundice; also the pulse remained about 68 to 80, and did not drop down into the 40's and 50's, as is so often the case in the latter disease.

I understand that these incidents occur after atophan taken by the mouth, as well as—as in my case—after atophanyl given intravenously. One must suppose that there is some factor at work in the patients who get jaundice that is not present in those who escape it; I cannot offer any suggestion on this matter. I am assured by the professor who ordered these injections that jaundice after their administration is unknown in Germany. Nevertheless it is wise that a word of warning should be given regarding the use of these drugs, and doubtless we shall hear some more facts hereafter concerning them. —I am, etc.,

Hampstead, July 10th. LEWIS G. GLOVER.

SIR,—I was rather surprised to read Dr. Langdon Brown's letter in your issue of July 3rd, recording two fatal cases following the use of atoquinol.

I have records of thirty-three cases in which I have prescribed atoquinol, both by mouth and as an ointment, without a single sign of toxicity. One case of very severe rheumatoid arthritis persisted with the treatment, taking four tablets daily with night and morning inunction for six and a half months without any satisfactory result, though the pains were undoubtedly relieved, but also without any toxicity.

I have always insisted on the simultaneous taking of sodium bicarbonate 5 grains for every tablet of atoquinol, and on a minimum of two quarts of fluid daily.—I am, etc.,

London, W.1, July 9th. L. C. DUNDAS IRVINE.

RECOVERY AFTER MASSAGE OF THE HEART.

SIR,—It is of the utmost importance in every case of recovery of the heart's action, that the means adopted should be most accurately recorded: this must be my excuse for troubling you again on this subject.

Mr. Spackman's case (BRITISH MEDICAL JOURNAL, July 3rd, 1926) is very interesting as indicating adrenaline as the efficient cause. But hearts have a way of stopping and restarting *sua sponte*, as it seems; we are all familiar in the physiological laboratory with Luciani's phases. Therefore we want to know exactly, not only the dose of the remedy, but that it reaches its destination—namely, the cavity of the right heart. Mr. Spackman injected 10 minims of the 1 per 1,000 of adrenaline into "the apex of the heart through the fourth space." This is not precise enough; it should be, according to Dr. Bodon, the "fourth left interspace, at the upper rim of the fifth rib close to the sternal border"; the needle should be 8 cm. in length (just over 3 inches), and it should be carried from front to back with a slight inward direction—that is, towards the mid-line. Should any other site be elected for special reasons, it and any other modification of procedure should be precisely reported. In children and adults of small build, the whole length of the needle would not be required to reach the heart's cavity.—I am, etc.,

London, W.1, July 9th. HARRINGTON SAINSBURY.

OPHTHALMIC EXAMINATION IN INFANCY.

SIR,—There is one cause of error of refraction that is at once remediable, if I am right in suspecting foveal damage from the exposure of infants to sky glare in the dorsal position in the open perambulator. Damage to the macula in this way is conceivable in view of the frequency of eclipse blindness, and might well account for some problematic cases of poor visual acuity in normal eyes; indeed, in abnormal eyes also, since such errors as astigmatism, myopia, presbyopia, etc., could be brought about secondarily thereto. It is a well known fact that interference with the macula by corneal opacities within the first seven months gives rise to nystagmus.—I am, etc.,

London, W.1, July 12th. HORATIO MATTHEWS, M.D.

RADIOGRAPHY OF MAXILLARY ANTRUM.

SIR,—Dr. McKelvie in his article on the radiography of the maxillary antrum (July 10th, p. 58) recommends the use of lipiodol as an opaque medium to demonstrate the filling defect in an antrum in which either malignant disease or polypi are present.

I have on many occasions used the same method, employing bismuth in paraffin with a small amount of iodoform; this gives a good shadow and is very much cheaper than lipiodol; moreover, it is necessary to plug the nose, for the bismuth-paraffin solution remains in the antrum for a sufficient time in all cases to allow a skia-

Lecturers.

The following were elected to give lectures during the ensuing year:

Hunterian Professors.—Sir Arthur Keith: Six lectures on recent researches carried out in the Museum. Vincent Zachary Cope: One lecture on shock and collapse in acute abdominal disease. James Ernest Helme Roberts: One lecture on the diagnosis and treatment of intrathoracic tumours. Ernest Marshall Cowell, D.S.O.: One lecture on recent advances in the surgery of hernia. Arthur Hughes Southam: One lecture on the pathology and treatment of the retained testes in childhood. Bernard Warren Williams: One lecture on the importance of toxaemia due to anaerobic organisms in intestinal obstruction and peritonitis. John Howell Evans: One lecture on testicular tumours of congenital origin.

Arris and Gale Lecturers.—Ralph St. Leger Brockman: One lecture on the cause of toxaemia and death in acute obstruction. Hildred Carlill: One lecture on the simulation of surgical affections by hysteria. Alfred Piney: One lecture on hyperplasia and neoplasia in lymphatic tissue.

Erasmus Wilson Lectureship.—Clement Edward Shattock: Six demonstrations on pathology.

Arnott Demonstratorship.—Sir Arthur Keith: Six demonstrations on the contents of the Museum.

Lister Medal.

At a meeting of the Lister Medal Committee on June 3rd last the Lister medal for distinguished contributions to surgical science, with the honorarium of £500, was awarded to Professor A. F. von Eiselsberg of Vienna. In compliance with the conditions of the trust, Professor von Eiselsberg will give an address at the Royal College of Surgeons at some date in 1927 convenient to the President and Council.

The Museum.

It was decided that the Museum be closed during August as well as during September, and for such part of July as may be found necessary in order to facilitate repairs and redecoration.

Diplomas were granted jointly with the Royal College of Physicians to 6 candidates in psychological medicine and to 11 candidates in laryngology and otology. Licences in dental surgery were granted to 68 candidates.

Primary Fellowship Examination.

A report from the Board of Examiners in Anatomy for the Fellowship was read, stating that at the examination concluded on June 17th, 129 candidates were examined, of whom the following 42 were approved and 87 rejected:

F. G. Allan, N. Attygalle, T. S. M. Barnett, J. R. J. Beddard, J. B. Blaikley, R. K. Bowes, P. D. Braddon, M. N. Chatterjee, S. M. Cohen, R. A. S. Cory, D. M. B. Evans, A. C. Fisher, R. R. Fitzgerald, H. N. W. Harley, C. P. Hines, D. J. Jones, C. A. Keele, A. M. Lazarus, S. I. Levy, Hilda M. Linford, J. E. Morton, Keren Isabel Parkes, R. J. Parry, A. R. D. Pattison, I. Preiskel, K. H. Pridie, F. T. Ridley, H. R. Rishworth, S. Shalaby, A. E. Smith, T. R. Stevens, R. C. Taylor, J. H. Thompson, S. A. McC. Thompson, W. E. Tucker, J. H. M. Walker, H. S. Waters, N. L. White, P. Wiles, Beatrice M. Willmott, Margaret D. Wright, S. Zuckerman.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons this week debated Estimates for the Ministry of Health, Ministry of Transport, and the Post Office, discussed a motion relating to the business interests of Ministers, and further considered the Finance Bill on Report. The discussion on the Ministry of Health Vote was marked by a general concentration on health subjects, such as has previously been lacking in discussions about this department. The report of the Select Committee on Nursing Homes was due for publication during the week, but had not been issued at the time we went to press.

The Ministry of Health Vote.

In the House of Commons, on July 13th, the vote for the salaries of the Ministry of Health was discussed.

Mr. Neville Chamberlain (Minister of Health) said that cancer was increasing at an alarming rate. Last year, in this country, 1,336 deaths from cancer occurred per million, which was equivalent to the death of 50,000 persons. It had been estimated that out of every seven persons in this country who reached the age of 30 one would die of cancer. It was important that the public should be educated so that the disease could be treated in its early stages. The significance of the discovery of Dr. Gye and Mr. Barnard was that cancer was due to a virus which entered the body from outside, but which did not produce cancer until and unless it was associated in the body with some other factor, the nature of which had not yet been clearly ascertained.

The right hon. gentleman proceeded to direct the attention of local authorities to the experiment which was being carried out at Papworth by Dr. Varrier-Jones in regard to the treatment of tuberculosis. There was here an opportunity for a big progressive local authority to start a settlement of its own on Papworth lines. Small-pox was rapidly increasing in this country. The number of cases were as follows: In 1922, 973; 1923, 2,500; 1924, 3,800; 1925, 5,300; and in the first six months of this year, 5,500 cases. This increase must be regarded without a great deal of anxiety. It was true that the disease was occurring in a very mild form, but in the past this mild form had coexisted with a deadly form. If this were to reappear, those who fulminated against vaccination would rush to the vaccination officer. Vaccination against small-pox was regarded with prejudice by a large number of people; the vaccination laws were framed a good many years ago, and knowledge had increased and widened since then. At present there were seventy different diseases for which vaccination was practised to secure immunity. Small-pox was the only instance in regard to which compulsion was applied. It might be that the very fact that this particular disease was picked out and separated from the others for this exceptional legislative treatment had served to inflame the fanatical feelings against it, which had led to so large a proportion of our population going without vaccination. At any rate, he had recently set up a committee, under the chairmanship of Sir Humphry Rolleston, to investigate the whole subject, and he was content for the present to await the report and any recommendations which it might make on the subject.

A good deal of alarm had been created by the very distressing after-effects of lethargic encephalitis. It was unfortunate that as matters stood at present there was considerable difficulty in providing proper treatment. The legal definition of mental deficiency would not cover such cases; certification for lunacy was inappropriate. That was engaging his very serious attention, and it might be that he would have proposals to make to Parliament before very long to meet it. It was reassuring to know that the disease appeared to be on the wane. The number of cases, which had been 5,039 in 1924, came down to 2,635 in 1925. It was justifiable to draw the conclusion that this complaint, which appeared so suddenly and developed so rapidly, had reached its maximum and was now passing away, and that soon it would become, not a matter which could be neglected indeed, but one which would no longer give serious concern and anxiety.

Sir M. Macnaghten referred to a letter from the Ministry of Health to the Edmonton District Council, which, he said, placed an absolute prohibition on a doctor in a maternity centre giving advice or information to a woman on the subject of birth control. The letter stated that while a doctor could not give the advice himself, he might refer the woman for advice to a private practitioner or to a hospital. In default of compliance with the instruction, the grant would be withdrawn. Obviously, he said, maternity centres ought not to be converted into birth control clinics, but all that was asked was that in the case of a poor woman a doctor should be in a position to give this advice and information.

Dr. Fremantle said that statements had been published with regard to the starvation of the children of the miners, but he had seen no evidence in support of those assertions. On the other hand, evidence from medical clinics and welfare centres went to show that the health of the children was better now than before the strike. Dealing with the question of deaths in childbirth, Dr. Fremantle said that the report on public health for 1924 contained very serious figures, showing how unprogressive had been the treatment of that question. Although there had been a considerable reduction in maternal mortality, it had not been in proportion to the reduction in infantile mortality. There had, indeed, been an actual increase in the mortality of mothers in childbirth. There was great room for an increase in the number of beds in maternity homes, especially in view of the lack of proper accommodation in working-class homes. Maternity homes should be regarded, not as permanent institutions, but as make-shifts, until proper accommodation for maternity cases was provided in all homes. Another question of great importance was the supply of clean milk. Again, there was no provision for the supervision of health in coal mines. They heard of certain diseases among the men which were exceedingly troublesome. The Ministry of Health ought to take up the attitude, more and more, of being responsible for the health of the people in every department, and of knowing what health conditions were all over the country.

Dr. Vernon Davies said that it was true that for the last fifty years there had been a very happy and steady decrease in tuberculosis, except in the war years 1913 to 1918, when for temporary reasons there was an increase. But, despite that decrease, consumption still took a terrible toll of the younger people. He proceeded to review the machinery which existed at the Ministry of Health for dealing with the disease, and paid a tribute to the work of the panel doctor, who was the first link in the system of treatment. The Ministry had added to the panel doctor tuberculosis officers, who were expert in the diagnosis and treatment of consumption. To get the full benefit of sanatorium treatment the cases must be taken early. The great want was for village settlements, and the Minister of Health ought to give a lead in this matter. The Ministry should divide cases of tuberculosis into two groups—those that could be cured and those which were too far advanced. Sanatoriums should be kept absolutely for the curable cases, and the unfortunate people who could not be cured should be removed from their homes to the Poor Law hospitals. His visit to M. Spahlinger had convinced him that he had made out a prima-facie case for his treatment. M. Spahlinger was a wonderfully clever scientist and was working on strictly scientific lines, without the slightest desire for money. But a difficulty was found in tying him down to any definite legal agreement. Now he had no money at all, having spent £80,000 in his experiments for the good of humanity, and he was living from hand to mouth by taking odd patients who gave a subscription or donation to his institution. The one essential thing for M. Spahlinger was to be able to produce his serum and enlarge his laboratory and stock. He (Dr. Davies) appealed to the Minister of Health to vote a certain sum, say £50,000 or £100,000, to M. Spahlinger for the purposes of his research work.

directions had also been carried out and others were being continued. Some specimens from the hospital had also been examined for diagnosis. Mr. Twort's appointment as superintendent of the institution has been continued for one year from June 1st, 1926.

Fellowship and Prize.

Applications for the William Julius Mickle Fellowship, of the value of at least £200, must reach the Principal Officer of the University by October 1st, 1926. It is awarded annually to the man or woman resident in London and a graduate of the University who has, in the opinion of the Senate, done most to advance medical art or science within the preceding five years, and has therein shown conspicuous merit. Further particulars can be obtained on application.

Provided there be a candidate of sufficient merit a Paul Philip Reitlinger Prize of £30 will be awarded on December 3rd, 1926, for the best essay embodying the result of some research work on a medical subject carried out by the candidate. Essays must reach the University by October 1st. Regulations for the award of the prize may be obtained on application to the Academic Registrar.

VICTORIA UNIVERSITY OF MANCHESTER.

MR. HARRY PLATT, M.D., M.S., F.R.C.S., has been appointed honorary Clinical Lecturer in Orthopaedics in the University.

The following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—*‡§Kathleen Sheehan, †Florence Whitrow, J. K. Anderson, F. Appleton, Florence M. Blades, G. Bridge, J. F. Caithness, Marguerite E. Cliff, T. K. Clifford, J. Crowther, Harriet M. Dick, Margaret Dyson, A. Fleming, I. H. Freedlander, C. F. Garfit, E. St.G. Gilmore, F. S. Hawkins, §Fanny Howe, T. J. Kay, H. B. Kilroe, J. H. Kitson, §C. T. Mills, G. S. de W. Moll, R. Pendlebury, Marjorie Reekie, C. D. Roff, M. Sheehan, Olive de la W. Turner, W. C. D. Walmsley, E. J. Warburton, J. T. Whitley. (*Forensic Medicine and Hygiene and Preventive Medicine*): Lillie M. Burton, J. Parness, Mary I. Prentice. (*Hygiene and Preventive Medicine*): P. Bester, R. H. Blackburn, G. W. Jones, B. R. Sandiford, W. S. Slater, G. R. Walker. (*Obstetrics and Surgery*): R. H. Barnes, Helen G. M. Bennett, S. Bernstein, J. W. Brooks, Louie J. Burton, J. F. Caithness, H. V. Crabtree, Harriet M. Dick, Margaret Dyson, R. Edmondson, Margaret Egan, E. Firth, I. H. Freedlander, J. S. Goller, E. Heard, Fanny Howe, E. P. Johnson, J. H. Kitson, G. Metcalfe, G. L. Normington, R. H. Poyser, I. M. Preston, Marjorie Reekie, Nora Ridehalgh, C. D. Roff, R. F. Sheppard, D. Starr, Florence V. Stephen, C. E. Sykes, R. T. Wimmer. (*Obstetrics*): L. Rosenthal.

D.P.H.—Gladys F. A. McLean.

DIPLOMA IN BACTERIOLOGY.—A. F. Abbassi, M. A. Omar.

* First class honours. ‡ Distinction in medicine.
† Second class honours. § Distinction in forensic medicine.

UNIVERSITY OF SHEFFIELD.

THE University Council at its meeting on July 9th appointed Dr. Denton Guest, at present assistant bacteriologist, to the combined post of demonstrator in pathology and assistant pathologist to the Royal Infirmary.

The following candidates have been approved at the examinations indicated:

M.D.—Annie Clark.

FINAL M.B., CH.B.—J. H. Blakelock, J. H. Fairclough, A. Isaac, J. D. Young.

UNIVERSITY OF LIVERPOOL.

MR. H. C. W. NUTTALL, F.R.C.S., has been appointed to the lectureship in surgical applied anatomy.

UNIVERSITY OF ST. ANDREWS.

THE following candidates have been approved at the examination indicated:

FINAL M.B., CH.B.—Margaret E. Anderson, Mary J. B. Anderson, R. E. Anderson, Jean Baxter, Elizabeth D. H. Craig, D. Cree, J. B. Douglas, Veronica M. Hannigan, J. Kelman, C. A. Lindsay, R. S. MacArthur, B. A. M'Cubbin, F. C. Osgood, A. F. R. Pooler, J. D. Robertson, Blema Rosen, B. Shanker, T. Thornton, D. D. Watson, Harriot E. Wishart.

UNIVERSITY OF ABERDEEN.

AT the graduation ceremony held on July 9th the following degrees were conferred:

M.D.—*J. Fiddes, †W. Buchan, †J. S. Taylor, W. J. Gill, C. Shearer.

M.B., CH.B.—C. Anderson, J. G. Bremner, C. H. Cave, ‡H. D. Christie, C. C. Connochie, J. Coutts, A. N. Forsyth, J. W. Foster, J. L. Gammie, D. J. T. Glennie, Evelyn Goldie, J. R. W. Hay, R. W. Hendry, ‡W. J. Hogg, E. A. M. Humphrey, F. Hunter, G. P. Middleton, A. Paterson, Catherine Peat, Margaret S. M. Reid, C. E. Saunders, A. D. Sinclair, J. I. Smith, ‡G. Stephen, A. J. W. Wilkins, A. Wood.

* Awarded highest honours for thesis.
† Awarded honours for thesis.
‡ Completed final medical professional examination with distinction.

The following prizes have been awarded in the Faculty of Medicine:

Struthers Medal and Prize in Anatomy: T. J. C. MacDonald. Lizars Medal in Anatomy: G. A. G. Mitchell. John Murray Medal and Scholarship (awarded to the most distinguished graduate in Medicine (M.B. and Ch.B., of the year 1925-1926) and the Lyon Prize (awarded to the most distinguished graduate in Medicine of the year 1925-1926): T. E. Anderson. Dr. Thursfield Award (for the best thesis for the degree of Doctor of Medicine of the year 1925-1926: J. Fiddes. Straits Settlements Gold Medal (awarded for the best thesis submitted for the degree of M.D. or D.Sc. on a Tropical Medicine subject): M. M. Cruickshank.

UNIVERSITY OF GLASGOW.

AT the congregation held on July 2nd the degrees of M.B., Ch.B. (with commendation) were conferred on Eric G. Oastler.

UNIVERSITY OF DUBLIN.

SCHOOL OF PHYSIC, TRINITY COLLEGE.

THE following candidates have been approved at the examinations indicated:

FINAL M.B. (*Part I, Materia Medica and Therapeutics; Medical Jurisprudence and Hygiene; Pathology and Bacteriology*).—*T. J. Millin, *C. P. Martin, W. J. E. Jessop, D. F. Walsh, H. B. F. Tweedy, G. W. F. Pratt, T. J. O'Reilly, R. F. W. K. Allen, F. O. W. A. Mahon-Daly, J. Sayers, H. S. North, A. J. Burdes, S. B. Dalrymple. (*Part II, Medicine*): *G. T. L. Archer, *V. St.G. Vaughan, R. E. Hadden, H. A. Brittain, J. F. MacMahon, Annette K. Wood-Martin, J. J. O'Dwyer, A. N. B. Odbert, D. Bluett, Stella C. Ross, A. Sachs, H. M. Nevin, G. E. Dodds, L. B. Somerville-Large, Gladys L. Craig, H. Nelson, G. S. Gardner, V. G. Horan, R. C. S. Warrington, D. A. O'C. Quinlan. (*Surgery*): *H. O. Clarke, T. J. W. Keown, R. E. Hadden, E. E. Satchwell, J. C. T. Sanctuary, Silver M. E. Deane-Oliver, D. St C. Mackenzie, G. V. A. Griffith, H. A. Brittain, Henrietta Armstrong, T. F. M. Woods, J. Craig, R. H. Mitchell, G. S. Gardner, Margaret H. Donaldson, Nancie N. Lowther, Evelyn E. Connolly, D. Bluett, G. R. L. Jordan, J. Quigley, S. Smyth, G. E. Dodds, E. H. Hall, H. A. Ferguson, Isabella K. M'Neilly, E. E. Malone, M. L. M'Cauley, C. H. Wilson, Kathleen I. Purdy, J. G. M'Dowell, R. T. P. Tweedy. (*Midwifery*): *R. R. Woods, *S. Behr, *R. A. Q. O'Meara, *W. F. Knobel, E. P. N. M. Early, E. G. Montgomery, J. A. K. FitzGerald, Evelyn E. Connolly, M. A. W. Roberts, C. de W. Meintjes, R. W. T. H. Stewart, G. S. Smyth, G. O. Taylor, E. A. Ellis, H. Nelson.

D.P.H. (*Part I, Bacteriology and Parasitology; Chemistry; Physics, Meteorology, and Climatology*).—Pauline K. O'Flanagan. (*Part II, Hygiene and Sanitation (including Sanitary Construction); Public Health Administration; Epidemiology and Infectious Diseases; Sanitary Law and Vital Statistics*): Anna J. O'Reilly, Mary B. Quinn.

* Passed on high marks.

QUEEN'S UNIVERSITY, BELFAST.

THE summer graduation ceremony in connexion with Queen's University was held in the Assembly Hall, Belfast, on July 9th, under the presidency of the Vice-Chancellor, Dr. R. W. Livingstone. The following were among the degrees and diplomas conferred:

M.D.—*Alfreda H. Baker, *T. H. Bingham, *W. G. Frackleton, *J. A. L. Johnston, *J. S. Loughridge, R. N. M'Kinstry, H. H. Stewart, J. M. Wilson, J. B. Adams.

M.B., B.CH., B.A.O.—†R. Abbott, †R. A. G. Hamilton, †A. M'Neilly, †H. M'Neilly, †L. C. Mayne, †W. A. Scott, J. Ballantine, Charlotte C. Beatty, Susan Beatty, J. Boyd, T. W. Boyd, G. R. Carruth, T. H. Duncan, R. Evans, H. Flack, J. H. Gorman, D. Gray, H. G. K. Haddick, J. Hinds, E. D. Hosey, J. A. F. Huston, J. Hutchieson, R. H. D. Laverty, C. F. Lynch, Emily S. Lytle, H. W. M'Cann, J. M'Gowan, E. M'Kernan, W. W. M. M'Kinney, E. H. C. Maguire, J. M. Mitchell, R. D. Monson, W. J. Nicholl, Anna R. Park, C. J. Patel, I. J. Patel, W. H. Patterson, M. A. Rea, S. B. Rea, D. S. Redmond, W. E. Reynolds, E. A. Rice, C. M'C. Ross, Kathleen E. V. Stephenson, T. L. Stockdale, J. Swan, H. A. Warnock, O. Watson, W. S. Watson, A. L. Weir.

D.P.H.—T. H. Bingham, Annie E. M. Calvert, Winifred M. Copeland, W. J. Hutchinson, J. V. Lucy, Moya A. N. M'Afee, Claire M. M'Guckin, W. F. T. M'Math, Eveline F. Magee, Vera G. M. Menary, F. W. Moffitt, Anna Watson.

* With commendation. † Second class honours.

The Queen's University Women Graduates' Association subsequently entertained the newly graduated women students at a reception held in the Examination Hall of the University. Mrs. R. N. M'Neill, M.B., who acted as hostess, delivered an address, in the course of which she extended a warm welcome to the new women graduates, and heartily congratulated them on their recent successes.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY Council meeting was held on July 8th, when the President, Sir John Bland-Sutton, Bt., was in the chair.

Elections to Council.

The President stated that at a meeting of Fellows on July 1st to elect four Fellows into the Council Mr. Hey Groves was re-elected and Mr. Vincent Warren Low, C.B., Mr. Victor Bonney, and Mr. George Grey Turner were elected. These four Fellows were introduced and took their seats in the Council. Mr. Low becomes substitute member of Council for Mr. Sherren until July, 1933, and Mr. Bonney becomes substitute member of Council for Sir Charles Ballance until July, 1930.

The late Sir Henry Morris.

A vote of condolence on the death of Sir Henry Morris, Bt., past President and past member of the Council and of the Court of Examiners, was passed.

Conjoint Examining Board Committee.

Mr. G. E. Gask was elected a member of the Committee of Management of the Conjoint Examining Board in the vacancy occasioned by the resignation of Mr. W. G. Spencer.

Election of Officers.

The following were elected for the ensuing year:

President: Sir Berkeley Moynihan, Bt.
Vice-Presidents: Sir Cuthbert Wallace and Mr. F. J. Steward.
Physiological Curator: Mr. N. H. Burne.
Pathological Curator: Mr. C. F. Beadles.
Honorary Curator of the Odontological Collection: Sir Frank Colyer.

change in the policy which the General Medical Council had adopted towards Dr. Axham. Major Hennessy asked for notice of that question. Mr. Erskine asked if Dr. Collis, a registered medical practitioner, was now acting in the same capacity as Dr. Axham had acted in times gone by to Sir Herbert Barker. The Speaker asked to see the question in writing, as it appeared to involve an individual. Mr. Macquisten asked if the purpose of appointing a lay member to the General Medical Council was to abate the autocracy of the medical profession and to dilute its fanatical trade unionism. The Speaker suggested that Mr. Macquisten should abate some of the adjectives in his supplementary questions.

Recognition of Manipulative Practitioners.—Mr. Chamberlain, being asked on July 9th whether he would consider the institution of an inquiry into manipulative surgery with a view to the recognition and registration of manipulative practitioners, said he would not. He had nothing to add to the statement he made in the debate on February 9th, which arose on a motion by Dr. Graham Little. The question had then been fully discussed.

Venereal Disease in the Royal Air Force.—In an answer to Dr. Vernon Davies, on July 7th, Sir Samuel Hoare said the incidence of primary syphilis and gonorrhoea in the Royal Air Force at home and abroad during the last three years for which figures are available was (per 1,000 sick daily)—Syphilis: 1922, 0.36; 1923, 0.40; 1924, 0.31. Gonorrhoea: 1922, 2.29; 1923, 2.17; 1924, 2.0. There was no reliable information as to the proportion of cases in which preventive measures were used.

M.O.H. and D.P.H.—In a reply to Mr. R. Young, Mr. Chamberlain said he had informed the council of Golborne, Lancs, that as the candidate selected by it as medical officer of health did not possess the requisite qualifications he was not at present prepared to give a sanction which would enable the council to obtain repayment from the county fund of one-half of the salary of the officer.

Research Institutions in the Dominions, Colonies, and certain Foreign Countries.—On July 12th Mr. Ormsby-Gore told Mr. H. Williams that arrangements had been made by the Department of Scientific and Industrial Research for communicating regularly published and other information as to the work done under its auspices to Dominion Government research organizations and to the principal unofficial research centres. Similar communications were sent to the Governments of India and the colonies. In return valuable information was received by the department from the oversea parts of the Empire. Mr. Williams asked whether there was any interchange of opinion with the Dutch and French colonies. Mr. Ormsby-Gore replied that there was no direct interchange, but practically all Colonial Office research officers got reports from places like Guiana and Java, and the work of the French in this matter was followed in the appropriate institutions of research in this country. Dr. Haden Guest asked if the research institutions of the British Empire were in touch with the international research institute in Italy. Mr. Ormsby-Gore: Yes. Dr. Haden Guest asked if it would be possible to have a Government publication, setting out the present conditions of all these different research institutions. Mr. Ormsby-Gore replied that he had gone into the matter recently. There was a suggestion that, by co-operation with the Imperial Institute, more regular publication might be obtained of the names of research officers in different parts of the Empire and the main subject with which they were dealing. That was not yet decided.

Illness in Officers' Training Corps.—On July 12th Sir L. Worthington-Evans (Minister of War) told Mr. Rennie Smith that there were no records in the possession of the War Office from which he could give an analysis of the infectious illness of 3,660 members of the junior division of the Officers' Training Corps who were for this reason prevented from attending camp in 1925. It would be erroneous to assume that the 3,660 members in question were ill. The great majority were "contacts" who were not allowed to attend camp owing to the risk of spreading infection.

Control of Nursing Association Homes.—On July 12th Mr. Penny asked the Minister of Health whether, in view of the inability of nursing association committees to deal with the technical side of their activities, he would introduce legislation enforcing the composition of an advisory committee of local medical men in all cases in addition to the regulations for inspection now in force. Sir K. Wood replied: It is clearly desirable that a nursing association which undertakes the management of an institution such as a maternity home should have the benefit of medical advice, but the Minister doubted whether it would be expedient to attempt to enforce, by legislation, such a condition as was suggested. Mr. Penny asked whether any alternative way of doing this would be considered. As these institutions were to a very large extent local institutions would it not be better if local medical men inspected them periodically? Sir K. Wood replied that the Minister of Health had already made various suggestions with regard to this particular case, with a view to improvement, and if Mr. Penny had any suggestion to make he would consider it.

Regulations for Bakehouses.—The Home Secretary told Colonel ..y, on July 8th, that proposals requiring the adoption at bake-..ses of certain special precautionary measures against dermatitis ..d been communicated to associations representing employers and ..ployed, and the views of these associations had been considered. ..had decided to proceed at once with the issue of an Order for the baking industry under Section 7 of the Police, Factories, etc. (Miscellaneous Provisions), Act, 1916. Any objections lodged would have to be considered before the Order could be finally made.

Notes in Brief.

On July 12th the Bethlem Hospital Bill was read the third time in the House of Commons.

On July 8th Mr. Churchill said no final decision had been reached about the provision by the Treasury of accommodation for the headquarters of London University.

On July 13th the Reading University Bill was read the third time in the House of Commons.

Obituary.

SIR JOHN SHERBURN, M.B., C.M.,

Consulting Surgeon, Hull Royal Infirmary.

WE regret to record the death of Sir John Sherburn, on July 7th, at the age of 75, after a long period of ill-health. He received his medical education at Edinburgh, where he graduated M.B., C.M. in 1875; two years later he obtained the diploma M.R.C.S.Eng. He was closely associated with the Hull Royal Infirmary, where he had held the posts of house-surgeon, pathologist, and honorary consulting surgeon. He was also connected with the founding of the Hull Victoria Hospital for Sick Children, to which he was honorary consulting surgeon.

In addition to his extensive medical practice in Hull, Sir John Sherburn was a partner in the shipping firm of Bailey and Leatham, and took a prominent part in the public life of the city; he was elected sheriff in November, 1886; in the following year he became mayor, and held the office for two years in succession. In 1889 he was appointed justice of the peace for Hull, and later for the East Riding of Yorkshire. For twenty-three years he was connected with the East Riding Artillery Volunteers, and after his retirement he retained his rank of lieutenant-colonel. On three occasions he was a candidate for Parliament in the Liberal Unionist interest, but was defeated. He was created a knight in 1902. He leaves a widow, two sons, and three daughters.

NEIL MACLAY, M.B., C.M.,

Surgeon, Throat, Nose, and Ear Hospital, Newcastle.

DR. NEIL MACLAY of Newcastle-on-Tyne died with tragic suddenness on June 26th, at the age of 53, while on holiday at Bamburgh. A student at Glasgow University, he graduated M.B., C.M. in 1895. After gaining experience in several assistantships in various places he commenced general practice at Wallsend-on-Tyne in 1899. While carrying on an extensive practice he found time to interest himself in diseases of the nose and throat, and became honorary surgeon to the Throat, Nose and Ear Hospital, Newcastle-on-Tyne. In 1911 he determined to devote all his time to that special branch of work, and for that purpose removed to Newcastle-on-Tyne. At the time of his death he was senior surgeon to the Throat, Nose and Ear Hospital and aural surgeon to the Infectious Diseases Hospital, while carrying on a very busy practice. A Fellow of the Royal Society of Medicine, and a member of the Scottish Otological and Laryngological Society, he was a frequent and enthusiastic attendant at meetings in London and Scotland. Indeed, on the day he died he had intended travelling to Edinburgh for a meeting of the latter society. At the time of his death he was president of the Newcastle-on-Tyne and Northern Counties Medical Society, of which he had previously been secretary. He was vice-president of the Section of Laryngology, Otology, and Rhinology at the Annual Meeting of the Association at Bath. Apart from his duties as surgeon to the Throat, Nose and Ear Hospital he found time to interest himself largely in its administration and particularly in its recent extension. During the war he was very actively engaged in the formation of the Tyneside Scottish battalions, and acted as medical officer for a considerable time.

He contributed numerous articles to the *Journal of Laryngology* on diseases on the sinuses and related subjects.

Dr. Watts said that only a small proportion of infants were vaccinated. This was due more to the carelessness of parents than to conscientious objection to vaccination. Yet there were very few prosecutions for breaches of the law. The increase in the number of cases of small-pox was due to this laxity, and it also explained the action taken by foreign countries, such as the United States, in seeing that British sailors were vaccinated before they were allowed to land. He advocated the cure of tuberculosis by the use of M. Spahlinger's serum, and urged the need of greater co-ordination between the different departments of the Ministry.

Dr. Haden Guest said that while the Spahlinger treatment might have a certain value, M. Spahlinger would not enter into any undertaking with anybody at any time. It was impossible, therefore, to make a grant of public money. He thought it was an occasion for private rather than public enterprise. He hoped that something might be done in that way. He thought he was speaking for medical opinion as a whole when he said that the real way of dealing with tuberculosis was by preventive rather than curative methods. If such an improvement could be made in the standard of life, that every day everybody had an adequate amount of food and did not do an excessive amount of work, the consumption statistics would fade almost out of existence. Experiments which had been undertaken in providing workshops for men who had been discharged from sanatoriums where they could learn to take up life again under normal conditions were on the right lines and would be of great assistance to such men to get back to ordinary life.

Dr. Shiels associated himself with other speakers in his appreciation of the results of the Spahlinger treatment, but there were considerable difficulties to be faced. The Minister should keep his mind open in regard to the possibility of acquiring this treatment for those who suffered from tuberculosis. He was glad that the Ministry would encourage local authorities to show initiative in the establishment of village settlements. There had been some misunderstanding of the position of the Ministry in regard to treatment by sunlight and artificial sunlight because many local authorities had the impression that the setting up of installations for this treatment was not encouraged. The milk supply was by no means what it should be and was far behind that of the United States. The Ministry should continue its efforts to try to eliminate tuberculous milk altogether. Far too little milk was consumed per head of the population, but mothers could not be urged to give their children more milk unless it was safe.

Sir Kingsley Wood, replying to the debate, said that undoubtedly the corner had been turned so far as housing was concerned. Whatever decision was reached in regard to the housing subsidy in October, no alteration would be made in the financial contributions for the removal of slums. Thanks to the Economy Bill, it was now possible to give the following increases and additional benefits to all men belonging to the army and navy. They would have an extra sickness benefit over and above the ordinary amount received of 3s. a week, making the total up to 18s. The disablement benefit would be increased by 1s. 6d. a week, making a total of 9s. a week. The maternity benefit would be increased by 6s., making the maternity benefit to people in the Army, Navy, and Air Force Insurance Fund up to no less than 46s. They would also receive extra benefits in the way of dental and ophthalmic treatment. Sir Kingsley Wood said that his reference to the treatment of M. Spahlinger would be short, because the subject had been effectually dealt with by Dr. Haden Guest. Succeeding Ministers of Health had had to face the same difficulties. Mr. Chamberlain, so soon as he came into office, having heard of the treatment and a great many promises made in connexion with it, and of a certain number of cases which, it was stated, had been of exceptional interest, made an offer to M. Spahlinger to send over officers of the Ministry of Health to examine into the discovery and in any way that was possibly open to him to effect such an examination as any reasonable man should make in a matter of that kind. That offer was rejected. Dr. Watts asked whether it was not a fact that officers of the department had been over two years ago and reported favourably. Sir Kingsley Wood replied as follows: "I think that is true to this extent, that officers had been there and had seen certain cases, but up to this very hour, I think the hon. gentleman will agree, no such explanation or facilities have been given as would warrant any man who is careful of recommendations he may make in a matter of this kind to bring it before the House and say a Government grant should be made. It has been through no fault of numerous Ministers of Health that no further trial has been made of this method. Offers have been made to go there, and suggestions have been made to M. Spahlinger that he should provide such opportunities here as would allow of a proper and careful examination, in order that we might make a recommendation. It is utterly impossible, as suggested by the hon. member, that my right hon. friend should make a gamble of £100,000 and ask the House to vote such a sum in those circumstances." As to the question of a doctor being allowed to give advice on birth control at a maternity centre, before the Minister made an alteration in public policy there must be a much more considerable backing.

A motion for reduction of the vote was defeated and the debate was adjourned.

University of London Bill.

The University of London Bill was considered in committee in the House of Lords on July 9th. On Clause 7 (providing for the incorporation of colleges and schools) Earl Beauchamp moved a proviso that no statute made under the bill should affect any institution existing on January 1st, 1925, except with the consent of the governing body. The Earl of Balfour (Lord President of the Council), who is in charge of the bill, said that he did not think the theological colleges which now existed were threatened. The University did not concern itself with questions of theological controversy, and there was no danger that the traditions so long maintained would suffer any change by the legislation proposed. Viscount Haldane said that the work of the Commissioners would be paralysed by the proposed amendment, and it was withdrawn. On the Report stage, which was taken on July 13th, the clause as to the appointment of commissioners was, at the instance of the Government, amended, to provide that an order appointing a person to fill a vacancy among the commissioners should be laid before Parliament.

Bonesetting.

Mr. Clarry presided, on July 13th, over a meeting of members of Parliament at the House of Commons, called to hear an address on bonesetting by Mr. A. E. Kennard. Mr. Kennard said that as a schoolboy of 11 he was accustomed to treat the injuries of his schoolfellows, and when apprenticed as a boilermaker those of fellow workers. The manager of the shipyard at Newport where he worked had built him a proper surgery where he treated many ailments and injuries, but the General Medical Council intervened and forced the firm to shut down the surgery. He had continued to practise at home, but had charged nothing till increasing practice forced him to give up his work as a boilermaker. He freely acknowledged Sir Herbert Barker as his master. Mr. Kennard claimed that in his own field his successes had been only second to Sir Herbert Barker's. He had treated thousands of cases, most resulting in complete cure and the rest in alleviation. In all industrial areas there were bonesetters, some competent, some otherwise, and he shuddered to think of the risk which some of these men ran. But more damage had been done by noxious patent medicines than by all the mistakes of bonesetters. Qualified medical men made mistakes. Referring to the remarks on the relation of bonesetters and the medical profession which had been made by Lord Dawson to a meeting of members of Parliament some time ago, Mr. Kennard said he himself was competent to diagnose many cases. Certain other cases he cheerfully sent to a medical specialist for diagnosis. The competent manipulative surgeon had a skill in his hands and wrists which could only be compared to that of a pianist, and had to be kept up by constant practice. The bonesetter encroached on only a small part of the doctor's sphere, but in that was more skilled than any doctor or surgeon who had not special training. He alluded to the case of Dr. Axham, and said it had not increased public goodwill towards the General Medical Council. Mr. Kennard said he maintained free clinics in many parts of the country, but was not allowed the services of an anaesthetist, thus limiting the work of the clinics and inflicting needless suffering on the poor. He thought that doctors possessing innate skill should take courses of study under bonesetters, and that, as Lord Dawson had advocated, the public should be protected from unskilled bonesetters. There should be a test of efficiency for bonesetters. He yielded to no man in his admiration of the medical profession; all he asked was that in his special work he should not be treated as one beyond the pale, but should be allowed the help of anaesthetists and doctors. With or without that help he would continue his clinics, but the Government should see that his work was not impeded.

Mr. Clarry asked if there was any organization representing bonesetters. How could the Government interfere to force doctors to assist?

Mr. Kennard said there was an organization of ten or fifteen bonesetters in the North of England, but he did not belong to it, nor was he an osteopath. He presumed that the Government had the power to insist on his receiving the aid which was necessary.

Sir Leonard Brassey asked what Mr. Kennard thought should be the necessary qualification of a bonesetter.

Mr. Kennard said a bonesetter should be able to treat any joint which was suffering from disease other than tuberculosis or any other disease which made the joint dangerous to handle. A committee of doctors should judge whether a claimant to bonesetting skill was in fact expert in manipulating joints.

Sir Leonard Brassey asked whether the candidate should show knowledge of anatomy and physiology.

Mr. Kennard agreed, and said such a test would reduce the "qualified bonesetters" in England to ten.

Another member asked whether, in view of the present bias in the medical profession, Mr. Kennard thought that profession would make such a test.

Mr. Kennard said unfortunately an examination by medical men or women would be the only practical test. He hoped that the Government would break down the difficulties and that the time would soon come when bonesetting would only be in the hands of qualified medical men and surgeons.

Mr. Hardie asked if Mr. Kennard thought it possible to get a board of doctors or surgeons with sufficient skill to adjudge the skill of a bonesetter. Mr. Kennard said he saw that difficulty.

Mr. Basil Peto thought the medical profession of to-day too prejudiced to examine the competence of bonesetters. They should issue their own diplomas.

The General Medical Council.—Mr. Erskine, on July 8th, asked Major Hennessy, as representative of the Lord President of the Council, what was the object in appointing a lay member of the General Medical Council. Major Hennessy said it would be contrary to practice to disclose the grounds on which the Privy Council advised the King to make the appointment. Mr. Erskine was doubtless acquainted with the public discussion on the constitution of the General Medical Council. Sir N. Grattan Doyle asked whether the appointment of a lay member signified an

THE Medical Women's Federation has arranged to hold a garden party during the Annual Meeting of the British Medical Association in Nottingham next week. It will be held, through the kindness of Miss Jessop, in the grounds of The Hermitage, on Thursday, July 22nd, from 3.30 to 6 p.m.

THE proposed post-graduate medical hostel at the Imperial Hotel in Russell Square, London, W.C., to which we referred on July 10th (p. 82), will be opened on Monday, July 26th, when an address on the objects of the hostel will be given by Sir D'Arcy Power at 9.15 p.m., under the chairmanship of Dr. Alfred Cox. Prior to the address there will be a general meeting at 7 and dinner at 8, for which the charge is 5s. Medical practitioners and their friends, including ladies, are cordially invited. Further information may be obtained from Mr. A. P. Bertwistle, F.R.C.S., 4, Spital Square, Bishopsgate, E.1. An announcement of the objects of the hostel appears in our advertisement columns this week.

THE Fellowship of Medicine and Post-Graduate Medical Association announces that on July 19th, at 3 p.m., Mr. Letchworth will give a special demonstration in clinical ophthalmology at the Royal Eye Hospital; this demonstration is open to all members of the medical profession without fee. On the same date there begins an intensive course in medicine, surgery, and the specialties at the Prince of Wales's General Hospital, Tottenham, with daily sessions for a fortnight from 10.30 a.m. to 5.30 p.m. The West End Hospital for Nervous Diseases will hold a course of lectures and clinical demonstrations on the diagnosis and treatment of common diseases of the nervous system from July 19th until August 12th at 5 p.m. daily. All-day courses will be given at the Queen Mary's Hospital for the East End, Stratford, from August 23rd to September 4th, and at the Queen's Hospital for Children, Hackney Road, from August 18th to 28th, the former being an intensive course in medical surgery and the specialties, and the latter in diseases of children. Practical courses in anaesthetics are arranged at any time to suit post-graduates and usually last about three weeks. Weekly practical courses in obstetrics and child welfare are arranged at the City of London Maternity Hospital; personal application must be made at the Fellowship offices. Copies of all syllabuses and of the general course programme may be had on application to the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

ON the occasion of his leaving Ballyjamesduff, co. Cavan, to practise at New Duston, Northampton, Dr. M. J. McQuaid was presented by his friends and patients with an address, a wallet containing Treasury notes, and a silver tea set.

THE extension of the Dental School at Guy's Hospital, opened on July 8th by the Right Hon. F. D. Acland, chairman of the Dental Board, adds to the number of dental chairs and the number of students that can be accommodated. One room is set apart specially for children, another is a denture room reserved exclusively for fitting dentures and appliances, a third is a demonstration room with the latest devices (including movable tiers on which students can stand); another is a clinical room in which special cases are seen by the surgeon on duty. A very large conservation room has been installed, together with a new prosthetic laboratory in which dentures and appliances are constructed, and a large probationary laboratory, accommodating fifty students, for teaching the more mechanical side of dentistry. Altogether between 300 and 400 students can now be accommodated. At the ceremony Mr. Acland was invited to open the extension by the senior dental surgeon, Mr. Montagu F. Hopson, who was the first student at Guy's Dental School when it opened its doors in 1889. Mr. Hopson mentioned that in the first year of the school's history the attendances of patients numbered about 4,000, in 1925 they numbered 88,000. During those thirty-six years more than 2,000 students have been enrolled. Mr. Acland, addressing the company in the physiological theatre before proceeding to unlock the doors of the new building, said that the Dental Board had been able to provide £5,000 towards the £23,000 which represented the cost of the extension with its equipment and fittings. The allocation was from funds the Board received from the dental profession as registration fees; but he wished to remind those present, and especially the students, that a very large proportion of those funds had been provided by men who had never enjoyed the advantage of training in such a place as Guy's Dental School. After the dean of the school, Professor T. B. Johnston, had proposed a vote of thanks to Mr. Acland an adjournment was made to the new building.

THE British Consul-General at Marseilles informs us that the Marseilles British Merchant Seamen's Hospital is now complete and ready to receive patients. It has been renamed Queen Alexandra Memorial Hospital (Marseilles). The building fund is nearly exhausted and, though there is no debt, it is not proposed to open the hospital until a satisfactory balance has been accumulated to meet the initial running expenses; the committee is appealing, therefore, for a sum of £5,000. The hospital contains sixty beds which will provide accommodation for merchant seamen and also for travellers from the Far East and elsewhere. The Duke and Duchess of York have consented to be patrons of the hospital. Subscriptions should be sent to the honorary treasurer, the Chairman of Barclay's Bank, 54, Lombard Street, E.C.3.

THE Cambridge University Press has recently undertaken to publish *The British Journal of Experimental Biology*. It is the official medium of publication of the Society for Experimental Biology, but its contributors are not limited to members of this society nor to the universities of Great Britain. The editor is Mr. James Gray, of King's College, Cambridge, with the assistance of Dr. Crew, of Edinburgh, and of eight other biologists representative of the different subjects concerned.

The Ministry of Health has issued a revised list of treatment centres and clinics for venereal diseases in England, Wales, Scotland, and Northern Ireland.

DR. WU LIEN TEH (G. L. Tuck), Director and Chief Medical Officer of the Manchurian Plague Prevention Service and Physician Extraordinary to the President of China, has received from the Imperial University of Tokyo, Japan, the highest medical degree of *higaku-hakushi*, his thesis being "A treatise on pneumonic plague." Dr. Wu already possesses the degrees of M.D.Cantab., LL.D.Hong-Kong, Litt.D.Peking, Sc.D.Shanghai, and C.P.H.Johns Hopkins. The League of Nations is about to publish a book by him on pneumonic plague.

THE cinematograph industry has collected nearly two hundred films on various subjects to present to the leper hospital of Palo Seco, near Balboa, in the Panama zone.

WE are informed by Dr. Barcroft Anderson that Dr. Carl Spengler is now able to produce in the rabbit a rapidly growing cancer tumour in such site on its surface as he may select, using a pure culture obtained from man of the organism he believes to be the cancer micro-organism, and from this cancer again to isolate the micro-organism. The cancer tumour in the selected site is determined by the injection of a drop of turpentine.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

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Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

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The ***TELEGRAPHIC ADDRESSES*** are:
EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*
MEDICAL SECRETARY, *Mediocera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: ***Associate, Edinburgh***; telephone: 4361 Central).

QUERIES AND ANSWERS.

THE BLUE BAG.

"K." asks what are the grounds of the widespread belief in the "blue bag" as a remedy for the stings of bees and wasps. Is it really effective?

As its efficacy is unquestioned in most domestic circles, there must be some grounds for the belief. That being admitted, the cause of its virtue becomes at once a suitable subject of inquiry and a consideration of its possible modes of action is not out of place. Washing blue consists of the colouring matter known as ultramarine. It is a double silicate of aluminium and sodium containing sulphur, and may be made by fusing together

A man of strong personality, Neil Maclay impressed all by the painstaking care, thoroughness, and dogged perseverance which he displayed in all his activities, whether in his practice or recreation; he manifested also great personal sympathy with those whom he attended professionally. His work was always quietly performed, and he seldom came into public prominence. During the later years of the war he was laid aside for many months with illness, borne with fortitude and patience; this occurred at a critical time in his career as a specialist. He has died in the heyday of active and prosperous practice at an early age. To say that he will be missed is merely banal; the profession is the poorer for the loss of such a man. For those who were privileged to know him intimately there is a gap which cannot be filled, the loss of a friend of ripe experience and knowledge of the world who was always ready to help and advise. He leaves a widow and one son, who is studying medicine. G. H.

Lieut.-Colonel WILLIAM HOTSON CADGE, I.M.S.(ret.), died at Lowestoft on July 9th, where he had lived since the end of the great war. He was the second son of Mr. Christopher Goulder Cadge, and was born at Loddon on August 11th, 1853. His uncle was the celebrated surgeon William Cadge of Norwich, and in many ways the nephew resembled his distinguished relative, particularly in his very high sense of duty, his unassuming personality, and his generous nature. He was educated at Norwich Grammar School, under Dr. Jessup, and spent a year at the Norfolk and Norwich Hospital before going up to St. George's Hospital. He obtained the diplomas of L.R.C.P. and M.R.C.S. in 1875, and entered the I.M.S. Though posted to the Civil Branch, he volunteered for the Afghan war in 1879, and received the Afghan medals. At Quetta he distinguished himself by the efficient evacuation of the wounded, and as a result was ordered to join Lord Roberts's forces at Kabul, but was not able to get beyond Jumrood Fort in the Khyber Pass, where he found scope for his energy in attending to the large number of sick men of a victorious army, victims of dysentery, rheumatism, and fever. He himself went down with rheumatic fever and was invalided home. He returned to India to take charge of the Lucknow Jail, and when operating on a case of stone poisoned his hand, and was after a very serious illness again invalided home. He returned to take charge of Agra Jail, and then became civil surgeon successively at Fategarh, Aligarh, Fyzabad, Bareilly, and Nainital. During this period he showed great skill as an operating surgeon, particularly in cataract, lithotrity, and lithotomy. During the great famine he enhanced his reputation, and was on the staff of the Lieutenant Governor, from whom he received a personal letter of thanks. Retiring from the I.M.S. on account of failing health he lived for a time at Lowestoft, where his uncle had also retired. But idleness was irksome, and he obtained the post of medical officer to the Mutford and Lothingland Board of Guardians, where he earned the reputation of an efficient and painstaking officer. During the great war, in spite of his age, he insisted on service, and was appointed to the Ranelagh Hospital at Ipswich, which he largely equipped out of his own means, provided extra nourishment and stimulants for the men, and refused any remuneration for his services. He worked incessantly without regard for his health from 1915 to 1918 at this post, and finally retired with the thanks of his commanding officer, receiving the decoration of O.B.E. for his services. In spite of his failing health Colonel Cadge took a great interest in local affairs; he served on the board of the Lowestoft Hospital, which was the richer for his generosity. He was a keen sportsman, and up to last year a good shot. He was endeared to a large circle of friends by his courteous and lovable nature, his loyalty to his friends, his great kindness and humility, which, perhaps, was a barrier to the high place he could have obtained if he had ever desired fame and high position. His generosity was great, and few knew the extent of his benefactions, both to institutions and individuals. He married in 1882 Miss Flora Summers, whom he leaves to mourn his loss. Our sympathy and condolences are with the widow and relatives.

We regret to record the death of Dr. W. F. R. CASTLE, on July 1st, at the age of 34. His school was Wellington, where he was distinguished as an athlete. Thence he went up to Trinity College, Cambridge, and in 1913 entered the London Hospital. At the outbreak of war he became a surgeon probationer in the navy, and in 1916 obtained the diploma L.M.S.S.A.Lond.; he was then promoted surgeon, and served in the North Sea and the Baltic, winning the Distinguished Service Cross in connexion with the Archangel expedition. In 1920 he graduated M.B., B.Ch.Cantab., proceeding M.D. in 1923, and in the following year obtained the M.R.C.P.Lond. After holding the posts of house-surgeon, house-physician, senior casualty officer, and anaesthetist at the London Hospital, and clinical assistant to the St. John's Hospital for Diseases of the Skin, he was appointed physician in charge of the skin departments of the Queen's Hospital for Children, the West End Hospital for Nervous Diseases, and the Kensington, Fulham, and Chelsea General Hospital. He contributed numerous articles on dermatological subjects to medical periodicals, including one on fur dermatitis to the BRITISH MEDICAL JOURNAL in 1924. His outstanding clinical skill, together with his kind, cheery nature, won for him great popularity, and his untimely death has brought grief to his many friends.

Medical News.

THE Rogers prize, of the value of 150 guineas, for the best essay on the subject of "The treatment of the sick poor and the preservation of the health of the poor" has been awarded by the trustees (Sir John Rose Bradford, President of the Royal College of Physicians, and Dr. T. Vincent Dickinson, Master of the Society of Apothecaries) to Mr. Hugh J. McCurrich, M.S., M.B., F.R.C.S. Numerous essays, many of them of considerable merit, were received from different parts of the country and from as far afield as India and South Africa.

THE annual meeting of the Poor Law Medical Officers' Association will be held on Thursday, July 22nd, at 3.15 p.m., in the guardians' board room, Shakespeare Street, Nottingham. The chair will be taken by the president, Sir Arthur Newsholme, K.C.B., M.D., F.R.C.P.; after the formal business Dr. A. L. Baly, superintendent of the Lambeth Hospital, will read a paper on the Poor Law hospital, its past, present, and future. All Poor Law medical officers are cordially invited to be present.

THE Italian Government cinema film on malaria was exhibited on July 12th, by the Baron Bernardo Quaranta di San Severino, at the Royal Army Medical College, Millbank. Dr. Andrew Balfour, Director of the London School of Hygiene and Tropical Medicine, introducing the lecturer, referred to the value of the Baron's work during the war and subsequently in establishing and strengthening the friendly relations between Italy and Great Britain. The film dealt comprehensively with the whole field of malaria prophylaxis and treatment in the past and present. Diagrammatic illustrations of the processes of the infection of the mosquito and the life-history of the malarial parasite were associated with detailed descriptions of the preparation of quinine and its distribution throughout Italy, and the different processes of drainage and destruction of the mosquito larvae. The lecturer explained the extensive nature of the antimalarial legislation in Italy, and gave illustrations of the value of the work that is being done. Malaria, he said, is gradually disappearing from the world and will soon become an almost unknown disease wherever this systematic treatment is adopted. The lecture had been originally intended for students of the London School of Hygiene and Tropical Medicine, but it was felt that the importance of the subject and the particular interest of the film called for its exhibition to a larger audience, and Sir Holburt Waring, in moving a vote of thanks to the lecturer, emphasized this point.

DR. H. HAROLD SCOTT, F.R.C.P.Lond., D.T.M. and H.Camb., F.R.S.Ed., has been appointed lecturer on tropical diseases at the Westminster Hospital Medical School. Dr. Scott, who formerly held the appointment of Government bacteriologist, Jamaica, and was afterwards Government bacteriologist and pathologist, Hong-Kong, is now Milner Research Fellow in comparative pathology at the London School of Hygiene and Tropical Medicine and pathologist to the Zoological Society of London.